AKAI SERVICE MANUAL

STEREO DECK RECEIVER

MODEL AC-M2L

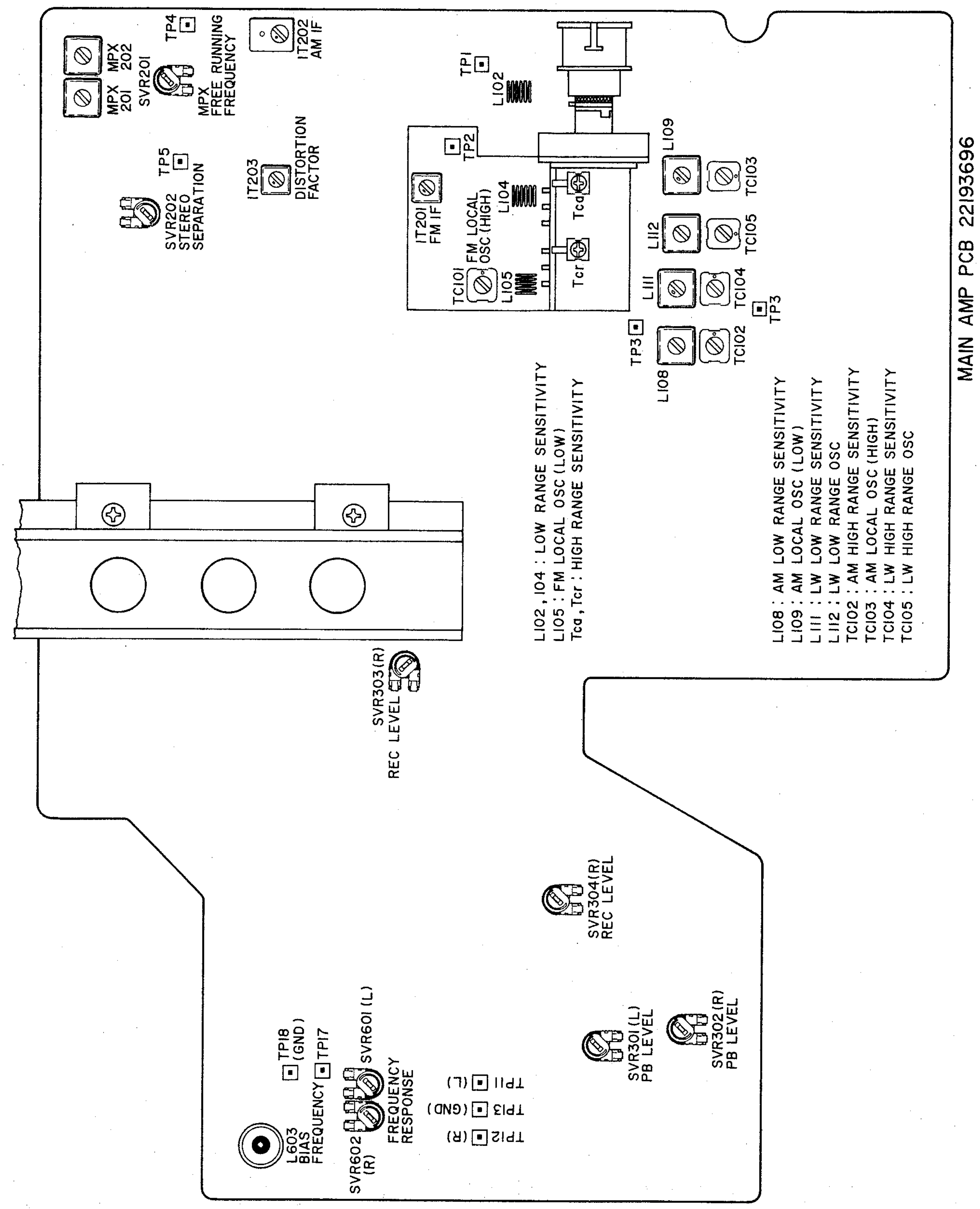
* This manual must be used as a set together with separately published AC-M2 Service manual.

I. SPECIFICATIONS

AM TUNER SECTION

	AM/MW	LW
TUNING FREQUENCY RANGE	525 to 1,605 kHz	150 to 350 kHz
USABLE SENSITIVITY (IHF)	500 μV/m	1,000 μV/m
SELECTIVITY	38 dB	–
IMAGE REJECTION	40 dB	35 dB
IF REJECTION	50 dB	25 dB
S/N	40 dB	30 dB
T.H.D.	1.5%	3%

II. ELECTRICAL ADJUSTMENT



MPX 201
MPX 202
SVR201
MPX FREE RUNNING FREQUENCY
TP4
IT202 AM IF
TP5
SVR202 STEREO SEPARATION
IT203
DISTORTION FACTOR
TP1
L102
TP2
IT201 FM IF
FM LOCAL OSC (HIGH)
L104
TC101
L105
Tca
Tcr
L109
TC103
L112
TC105
L111
TC104
TP3
TP3
L108
TC102
MAIN AMP PCB 22193696
L102, 104 : LOW RANGE SENSITIVITY
L105 : FM LOCAL OSC (LOW)
Tca, Tcr : HIGH RANGE SENSITIVITY
L108 : AM LOW RANGE SENSITIVITY
L109 : AM LOCAL OSC (LOW)
L111 : LW LOW RANGE SENSITIVITY
L112 : LW LOW RANGE OSC
TC102 : AM HIGH RANGE SENSITIVITY
TC103 : AM LOCAL OSC (HIGH)
TC104 : LW HIGH RANGE SENSITIVITY
TC105 : LW HIGH RANGE OSC
SVR303 (R) REC LEVEL
SVR304 (R) REC LEVEL
TP18 (GND)
TP17
SVR601 (L)
L603 BIAS FREQUENCY
SVR602 (R)
FREQUENCY RESPONSE
TP11 (L)
TP13 (GND)
TP12 (R)
SVR301 (L) PB LEVEL
SVR302 (R) PB LEVEL

Fig. 2-1 Test Points of MAIN AMP P.C Board

2-1. LW ADJUSTMENT

1) Connect test equipment as shown in Fig. 2-2.
2) Push the MW button.
3) Generator modulation is 400 Hz, 30%.
4) Proceed as outline in the CHART.

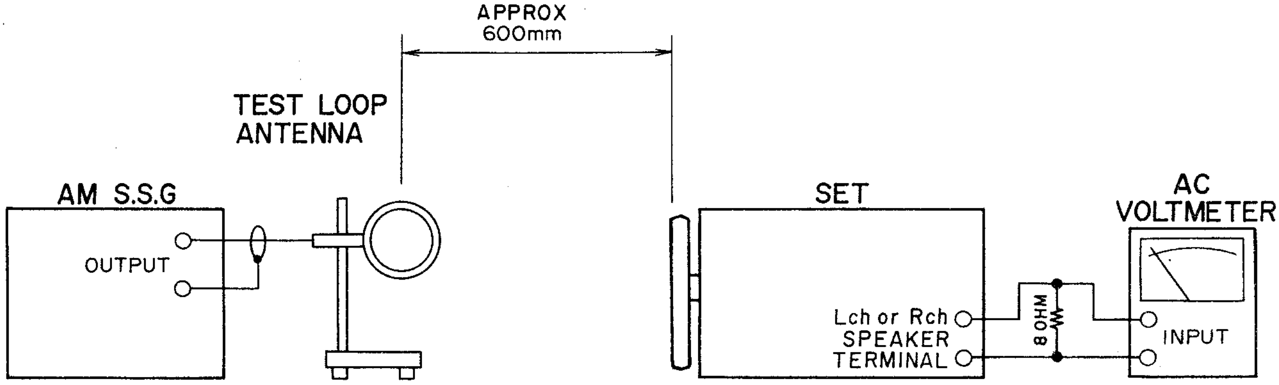

APPROX
600mm
TEST LOOP
ANTENNA
AM S.S.G
OUTPUT
SET
Lch or Rch
SPEAKER
TERMINAL
8 OHM
AC
VOLTMETER
INPUT

Fig. 2-2

Step	Adjustment Item	Input Signal	Adjustment Point	Result	Remarks
1	LW Low Range OSC	145 kHz	L112	Maximum Output	Turn the Tuning Dial fully counter clockwise.
2	LW High Range OSC	370 kHz	TC105	Maximum Output	Turn the Tuning Dial fully clockwise.
3	Repeat step 1 and 2 as required.				
4	Low Range Sensitivity	170 kHz	L111	Maximum Output	Tune to signal.
5	High Range Sensitivity	320 kHz	TC104	Maximum Output	Tune to signal.
6	Repeat step 4 and 5 as required.				

III. COMPOSITION OF P.C BOARD

LOCATION OF COMPONENTS

TR

TR001	D2
TR101, 102	A3
TR103	B3
TR104	B4
TR201	A2
TR202 to 204	B2
TR205, 206	B1
TR207	A2
TR208	B2
TR301, 302	C3
TR303	D4
TR304	E4
TR305	D3
TR306	E3
TR307	C3
TR308	D4
TR309	D2
TR310	E3
TR311	D2
TR312	E3
TR313	C3
TR314	D3
TR315	D5
TR601	E1
TR602, 603	C4
TR604	B1
TR611, 614	F2
TR615 to 618	E2
TR619	F2
TR620	C1

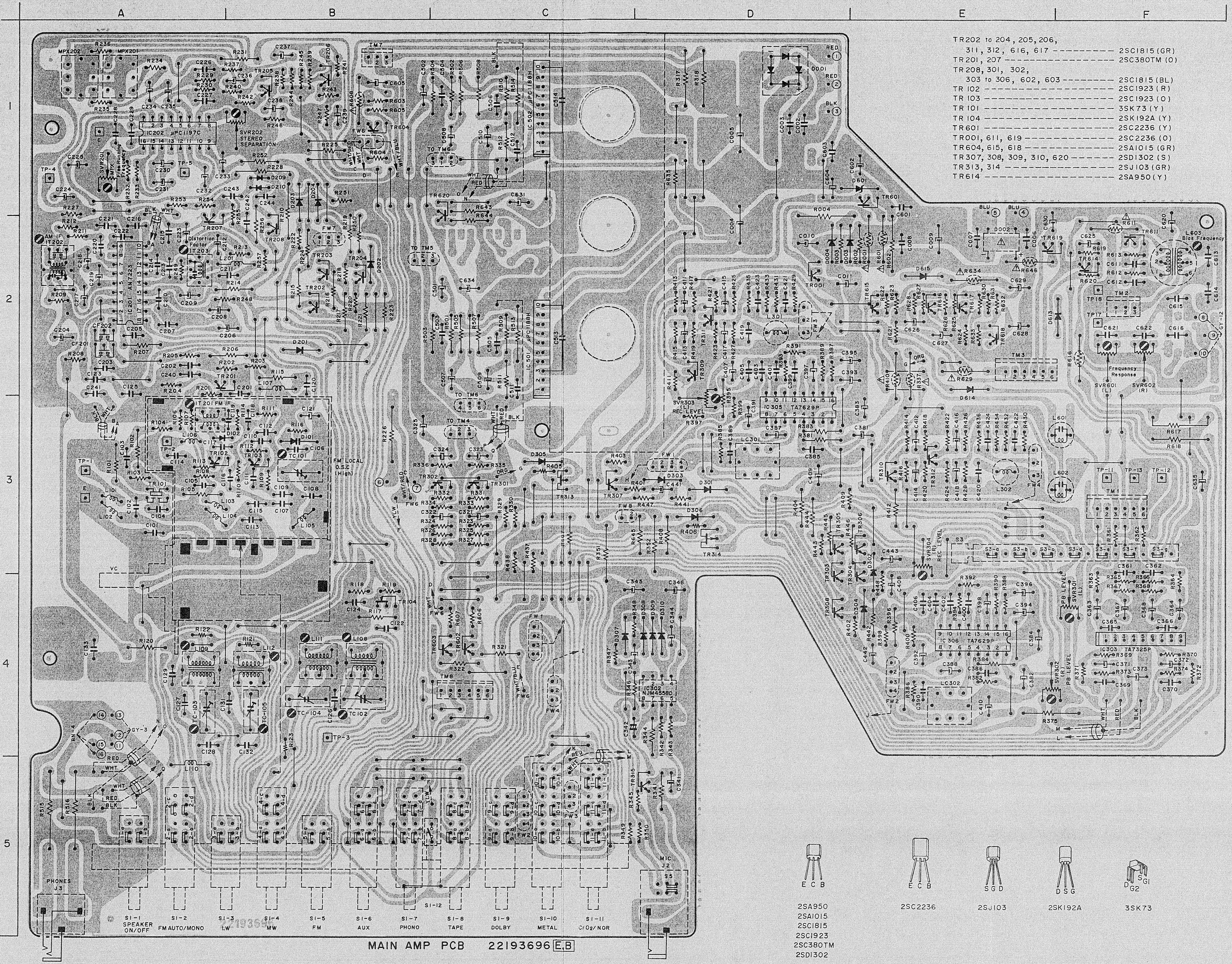
IC

IC201	A2
IC202	A1
IC302	D4
IC303	F4
IC305	D3
IC306	E4
IC501	C2
IC502	C1

TERMINAL

TP-1, 2	A3
TP-3	B4
TP-4, 5	A1
TP-11 to 13	F3
TP-17, 18	F2
TM 1	F3
TM 2	F2
TM 3	E3
TM 7	B1
TM 8	C4
FW 7	B2
FW 8	C3
① to ③	D1
④, ⑤	E2
⑥, ⑦	B3
⑧ to ⑩	F2
⑪ to ⑯	A4

TR202 to 204, 205, 206, 311, 312, 616, 617	2SC1815 (GR)
TR201, 207	2SC380TM (O)
TR208, 301, 302, 303 to 306, 602, 603	2SC1815 (BL)
TR 102	2SC1923 (R)
TR 103	2SC1923 (O)
TR 101	3SK73 (Y)
TR 104	2SK192A (Y)
TR601	2SC2236 (Y)
TR001, 611, 619	2SC2236 (O)
TR604, 615, 618	2SA1015 (GR)
TR307, 308, 309, 310, 620	2SD1302 (S)
TR313, 314	2SJ103 (GR)
TR614	2SA950 (Y)


A
B
C
D
E
F
1
2
3
4
5
MPX202
MPX201
IC202 μPC1197C
SVR202 STEREO SEPARATION
IC201 LA1235
AM IF IT202
Distortion Factor
IT201 FM IF
FM LOCAL OSC (High)
VC
TM7
TO TM6
TO TM5
TO TM4
IC502 μPC1188H
IC501 μPC1188H
RED ①
RED ②
BLK ③
D001
BLU ⑤
BLU ④
D002
L603 Bias Frequency
TM2
TM3
TM1
Frequency Response
SVR601 (L)
SVR602 (R)
SVR303 (L) REC LEVEL
SVR304 (R) REC LEVEL
IC305 TA7629P
IC306 TA7629P
IC303 TA7325P
IC302 NJM4558D
LC301
LC302
L601
L602
SVR301 (L) PB LEVEL
SVR302 (R) PB LEVEL
TM8
FW1
FW2
FW3
FW4
FW6
FW7
FW8
TC101
TC102
TC103
TC104
TC105
TP-1
TP-2
TP-3
TP-4
TP-5
TP-11
TP-12
TP-13
TP17
TP18
WHT
RED
BLK
GY-3
GY-12
PHONES J3
MIC J2
S1-1 SPEAKER ON/OFF
S1-2 FM AUTO/MONO
S1-3 LW
S1-4 MW
S1-5 FM
S1-6 AUX
S1-7 PHONO
S1-12
S1-8 TAPE
S1-9 DOLBY
S1-10 METAL
S1-11 CrO2/NOR
S5
E C B
2SA950
2SA1015
2SC1815
2SC1923
2SC380TM
2SD1302
E C B
2SC2236
S G D
2SJ103
D S G
2SK192A
D G2 S G1
3SK73

MAIN AMP PCB 22193696 E.B

IV. PARTS LIST

3. MAIN P.C BOARD BLOCK

REF. NO.	PARTS NO.	DESCRIPTION
3-1L	BA-749228	PC MAIN BLK AC-M2L (E,B)
	MAIN P.C BOARD	
3-S1L	ES-710387	SW PUSH 11THROW
3-L111	EO-710391	COIL ANT LW
3-L112	EO-710390	COIL OSC LW
3-TC104	EC-701129	C S-FIX 1R 2230914000
3-TC105	EC-741922	C S-FIX 8PF

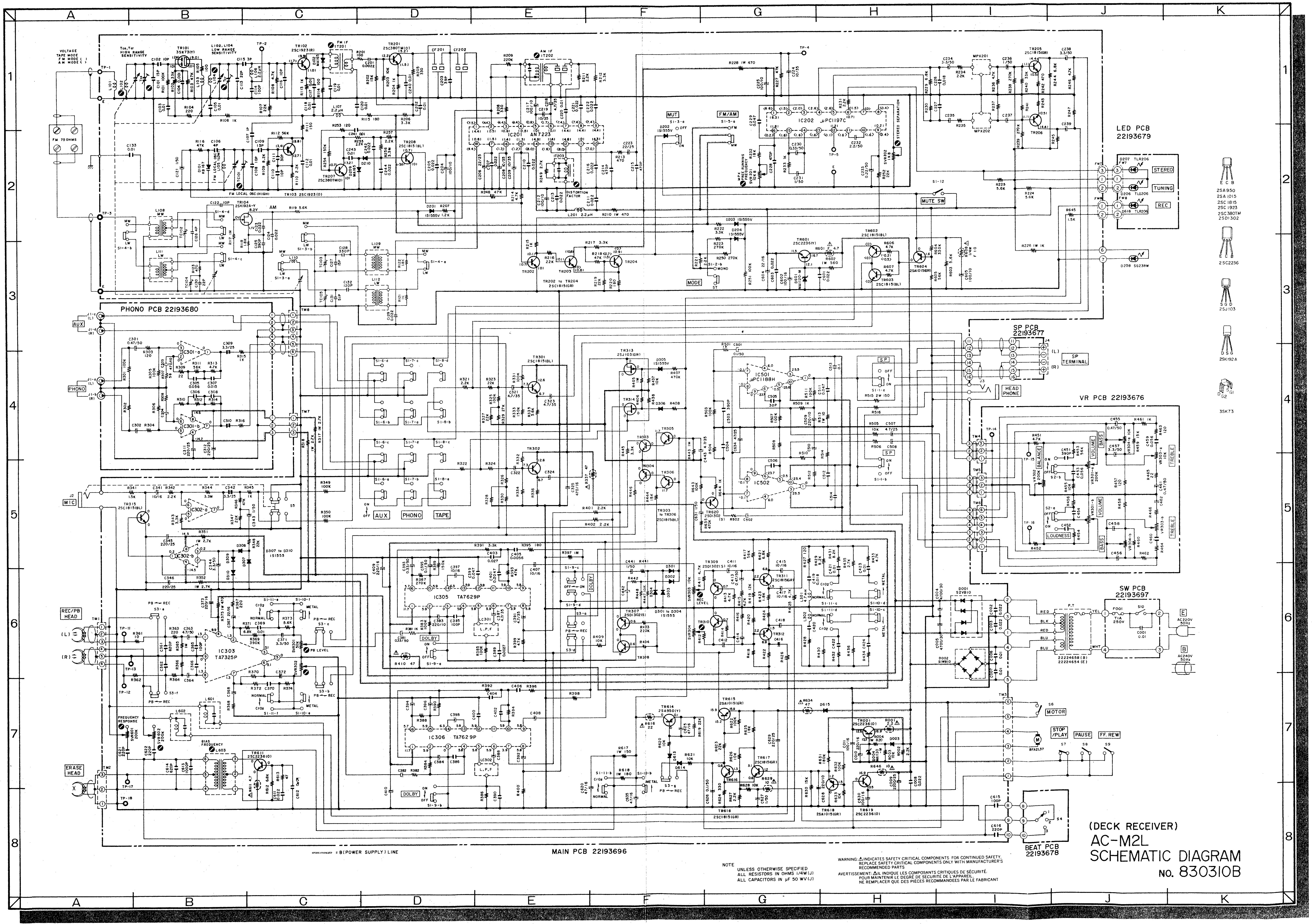
4. ASSEMBLY BLOCK

REF. NO.	PPARTS NO.	DESCRIPTION
4-1B	BT-749232	⚠ TRANS POWER AC-M2 (B,S)
4-1E	BT-709489	⚠ TRANS POWER AC-M2L (E)
4-2E	EW-313882	⚠ AC CORD 2 CORES KP-419C, LTCE-2F E
4-2B	EW-313884	⚠ AC CORD 2 CORES GTBS-2F 24/0.20×2 B
4-11E	SP-749230	PANEL REAR AC-M2L (E)
4-11B	SP-749233	PANEL REAR AC-M2L (B)

5. FINAL ASSEMBLY BLOCK

REF. NO.	PARTS NO.	DESCRIPTION
5-1L	BD-749229	PANEL FRONT BLK AC-M2L
5-2L	BD-709648	LID PANEL ASSY AC-M2L

V. SCHEMATIC DIAGRAM


PHONO PCB 22193680
LED PCB 22193679
SP PCB 22193677
VR PCB 22193676
SW PCB 22193697
BEAT PCB 22193678
MAIN PCB 22193696
IC201 AN7223
IC202 μPC1197C
IC501 μPC1188H
IC502
IC303 TA7325P
IC305 TA7629P
IC306 TA7629P
FM 75OHMS
AUX
PHONO
MIC
REC/PB HEAD
ERASE HEAD
SP TERMINAL
HEAD PHONE
STEREO
TUNING
REC
MUTE SW
MUT
FM/AM
MODE
DOLBY
MOTOR
STOP /PLAY
PAUSE
FF.REW
AC220V 50Hz
AC240V 50Hz
B (POWER SUPPLY) LINE

(DECK RECEIVER)
AC-M2L
SCHEMATIC DIAGRAM
NO. 830310B

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/4W(J)
ALL CAPACITORS IN μF 50 WV(J)

WARNING: ⚠ INDICATES SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY. REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

AVERTISSEMENT: ⚠ IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDEES PAR LE FABRICANT

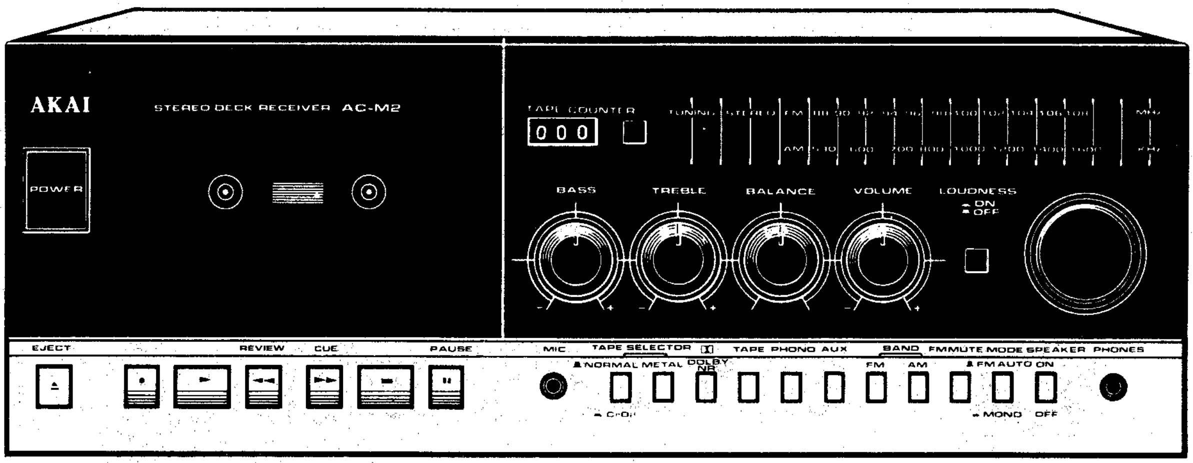
AKAI ELECTRIC CO., LTD.
12-14, 2-Chome, Higashi-Kojiya, Ohta-Ku, Tokyo, Japan. Printed No. 830428-I1-2000
TEL Tokyo (742) 5111 CABLE HIFIAKAI TOKYO TELEX J26261 Printed Date May 16, 1983 Printed in Japan.

CXN ~~A98~~ 117

8

AC-M2

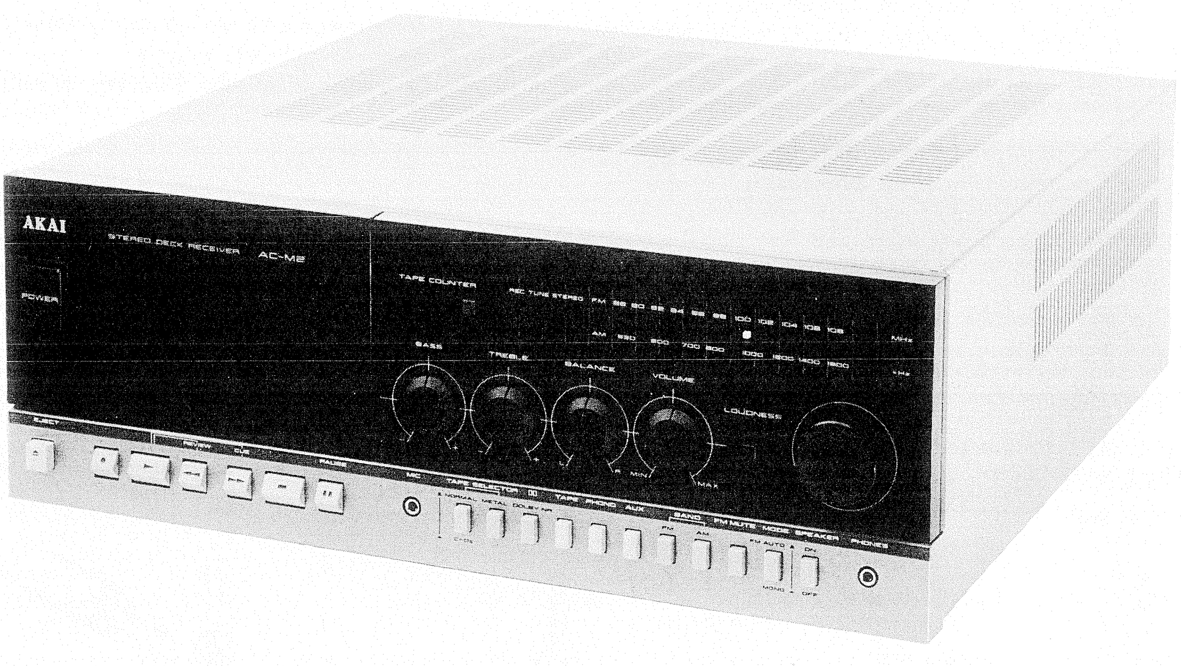
AKAI SERVICE MANUAL


AKAI
STEREO DECK RECEIVER AC-M2
POWER
TAPE COUNTER
000
TUNING
STEREO
FM
MHz
AM
kHz
BASS
TREBLE
BALANCE
VOLUME
LOUDNESS
ON
OFF
EJECT
REVIEW
CUE
PAUSE
MIC
TAPE SELECTOR
NORMAL METAL
DOLBY NR
TAPE PHONO AUX
BAND
FM
AM
FM MUTE MODE SPEAKER PHONES
FM AUTO ON
MONO OFF

STEREO DECK RECEIVER

MODEL AC-M2

8



STEREO DECK RECEIVER

MODEL AC-M2

SECTION 1 SERVICE MANUAL 3

SECTION 2 PARTS LIST 19

SECTION 3 SCHEMATIC DIAGRAM 30

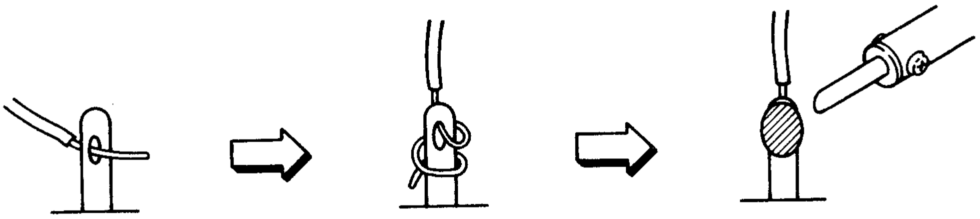
SAFETY INSTRUCTIONS

SAFETY CHECK AFTER SERVICING

Confirm the specified insulation resistance between power cord plug prongs and externally exposed parts of the set is greater than 10 Mohms, but for equipment with external antenna terminals (tuner, receiver, etc.) and is intended for $\boxed{C}$ or $\boxed{A}$, specified insulation resistance should be more than 2.2 Mohms (ground terminals, microphone jacks, headphone jacks. line-in-out jacks etc.)

PRECAUTIONS DURING SERVICING

1. Parts identified by the ⚠ symbol parts are critical for safety.
   Replace only with parts number specified.
2. In addition to safety, other parts and assemblies are specified for conformance with such regulations as those applying to spurious radiation. These must also be replaced only with specified replacements.
   Examples: RF converters, tuner units, antenna selector switches, RF cables, noise blocking capacitors, noise blocking filters, etc.
3. Use specified internal wiring. Note especially:
   1) Wires covered with PVC tubing
   2) Double insulated wires
   3) High voltage leads
4. Use specified insulating materials for hazardous live parts. Note especially:
   1) Insulation Tape
   2) PVC tubing
   3) Spacers (Insulating Barriers)
   4) Insulation sheets for transistors
   5) Plastic screws for fixing microswitch (especially in turntable)
5. When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.), wrap ends of wires securely about the terminals before soldering.



6. Observe that wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.).
7. Check that replaced wires do not contact sharp edged or pointed parts.
8. Also check areas surrounding repaired locations.
9. Use care that foreign objects (screws, solder droplets, etc.) do not remain inside the set.
10. Voltage Conversion and Best Selector
    1) Voltage Conversion
       Models for Japan, Canada, USA, Europe, UK and Australia are not equipped with this facility. Each machine is preset at the factory according to destination, but some machines can be set to 110V–120V or 220–240V as required.
       If your machine's voltage can be converted:
       1-1) Disconnect the power cord.
       1-2) Remove the cover plate.
       1-3) Move the Voltage Selector located on the rear panel with a screwdriver. So that the marker is below the voltage for your area. (Refer to Fig. 1)
    2) Cycle Conversion
       With DC motor cycle conversion is not necessary.

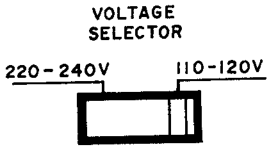


Fig. 1

SECTION 1

SERVICE MANUAL

TABLE OF CONTENTS

I. SPECIFICATIONS 4
II. DISMANTRING OF UNIT 5
III. CONTROLS 6
IV. PRINCIPAL PARTS LOCATION 7
V. MECHANICAL ADJUSTMENT 8
    5-1. PINCH ROLLER PRESSURE MEASUREMENT 8
    5-2. WINDING TORQUE MEASUREMENT IN EACH MODE 8
    5-3. TAPE SPEED ADJUSTMENT 8
    5-4. DIAL CORD STRINGING 9
VI. ELECTRICAL ADJUSTMENT 10
    6-1. AM (MW) ADJUSTMENT 11
    6-2. FM SECTION ADJUSTMENT 11
    6-3. CASSETTE DECK SECTION ADJUSTMENT 13
VII. CLASSIFICATION OF VARIOUS P.C BOARDS 14
    7-1. P.C BOARD TITLES AND IDENTIFICATION NUMBERS 14
    7-2. COMPOSITION OF VARIOUS P.C BOARDS 15

For basic adjustments, measuring methods, and operating principles, refer to GENERAL TECHNICAL MANUAL.

I. SPECIFICATIONS

FM TUNER SECTION

TUNING FREQUENCY RANGE	87.6 to 108 MHz
USABLE SENSITIVITY (IHF)	17.2 dBf
QUIETING SENSITIVITY (S/N=50dB) Mono/ST	23.2 dBf/43.2 dBf
SELECTIVITY (400 kHz)	60 dB
IMAGE REJECTION	55 dB
IF REJECTION	90 dB
SPURIOUS REJECTION	60 dB
AM SUPPRESSION	55 dB
S/N (Mono/ST)	70 dB/60 dB
T.H.D. (Mono/ST)	0.3%/0.4%
STEREO SEPARATION (1 kHz)	42 dB

AM TUNER SECTION

TUNING FREQUENCY RANGE	525 to 1,605 kHz
USABLE SENSITIVITY (IHF)	500 μV/m
SELECTIVITY	38 dB
IMAGE REJECTION	40 dB
IF REJECTION	50 dB
S/N	40 dB
T.H.D.	1.5%

DECK SECTION

TRACK SYSTEM		4 Track 2-Channel Stereo System
TAPE SPEED		4.76 cm/s (1-7/8 ips)
MOTOR		Electronically Controlled DC Motor × 1
HEADS		High Density Metallic Rec/Play Head × 1 Erase Head × 1
WOW & FLUTTER		0.07% (WRMS)
TAPE WINDING TIME		90 sec Using a C-60 Tape
FREQUENCY RESPONSE	NORMAL	40 Hz to 13,000 Hz (±3 dB)
	CrO_2	40 Hz to 14,000 Hz (±3 dB)
	METAL	40 Hz to 15,000 Hz (±3 dB)
S/N		54 dB Dolby NR ON: Improves up to 10 dB above 5 kHz
T.H.D.		1% (Metal tape)

POWER AMPLIFIER SECTION

RATED POWER OUTPUT (2 channels Driven)		2 x 18W/0.5% (1 kHz, 8 ohms)
S/N	PHONO	68 dB
	AUX	90 dB
RESIDUAL NOISE (8 ohms)		0.5 mV
CHANNEL SEPARATION (IHF, 1 kHz)		45 dB
APPLICABLE SPEAKER IMPEDANCE		4 to 16 ohms

PRE-AMPLIFIER SECTION

IMPUT SENSITIVITY/IMPEDANCE	PHONO	3 mV/47 kohms
	AUX	300 mV/47 kohms
	MIC	1.6 mV/4 kohms
FREQUENCY RESPONSE	PHONO (RIAA Deviation)	30 Hz to 15 kHz ±0.5 dB
	AUX	15 Hz to 50 kHz +0, −3 dB
TONE BOOST	BASS	±8 dB (100 Hz)
	TREBLE	±8 dB (10 kHz)
POWER REQUIREMENT		120V, 60 Hz for USA & Canada 220V, 50 Hz for Europe except UK 240V, 50 Hz for UK & Australia 110–120V/220–240V, 50 Hz/60 Hz switchable for other countries.
POWER CONSUMPTION		150W
DIMENSIONS		350(W) x 127(H) x 365(D) mm (13.8 x 5 x 14.4 inches)
WEIGHT		6.3 kg (13.9 lbs)

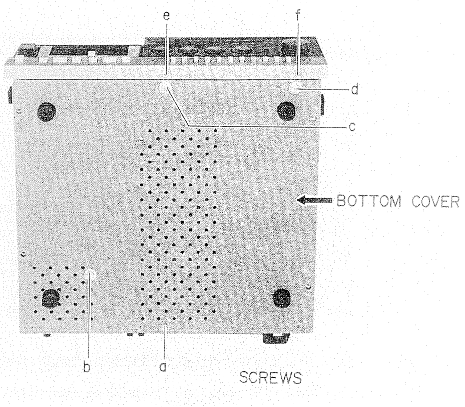
*** For improvement purposes, specifications and design are subject to change without notice.**

*** Dolby and the Double D symbol are trade marks of Dolby Laboratories. (Manufactured under license from Dolby Laboratories.)**

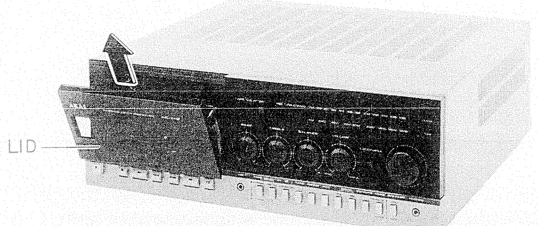
II. DISMANTLING OF UNIT

In case of trouble, etc. necessitating dismantling, please dismantle in the order shown in the photographs. Reassemble in reverse order.

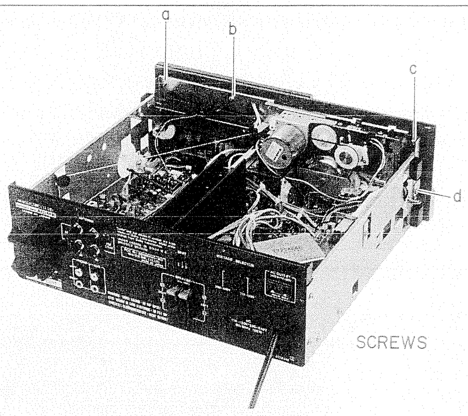
4


e
f
d
c
BOTTOM COVER
b
a
SCREWS

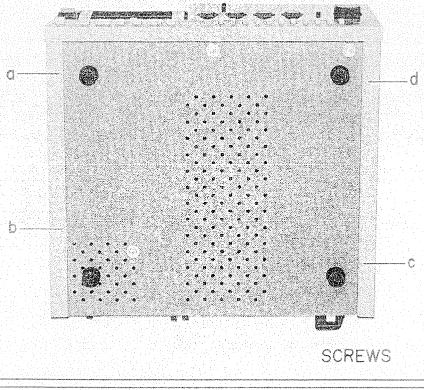
1



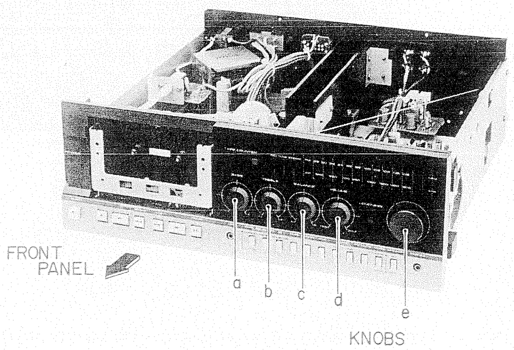
5


a
b
c
d
SCREWS

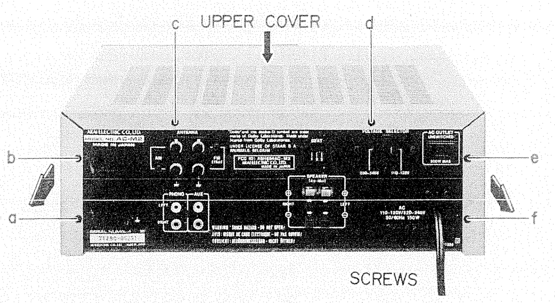
2


a
d
b
c
SCREWS

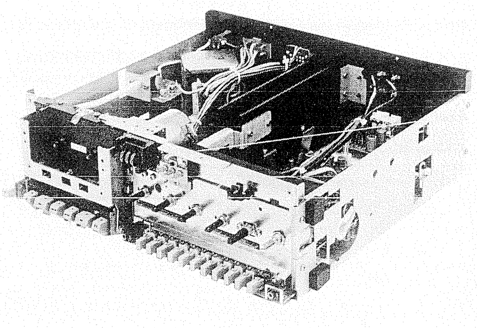
6


FRONT PANEL
a
b
c
d
e
KNOBS

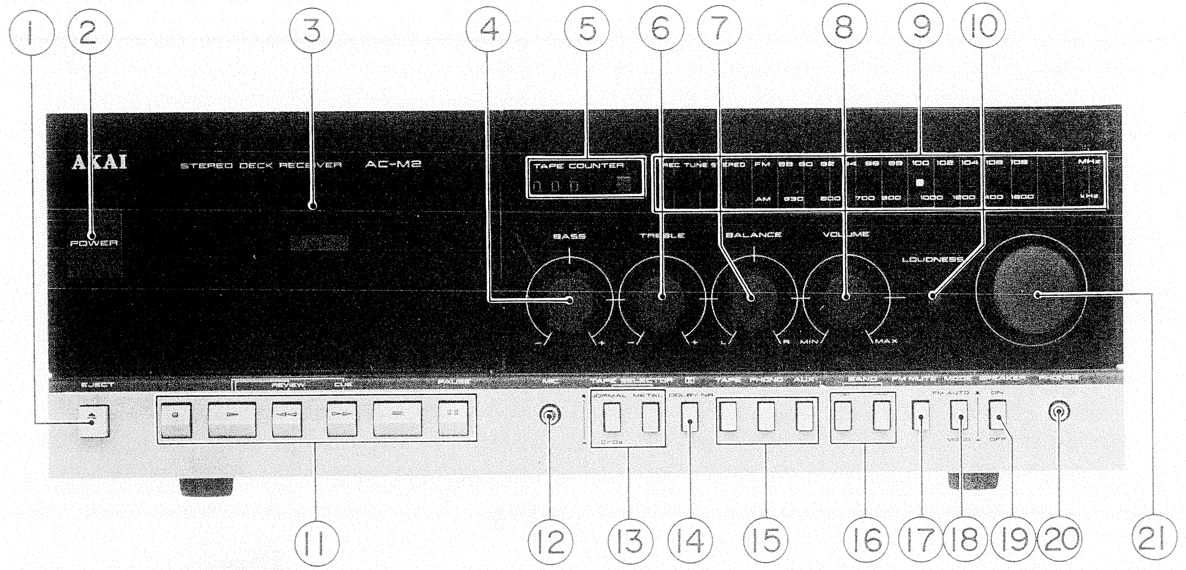
3


c
UPPER COVER
d
b
e
a
f
SCREWS

7

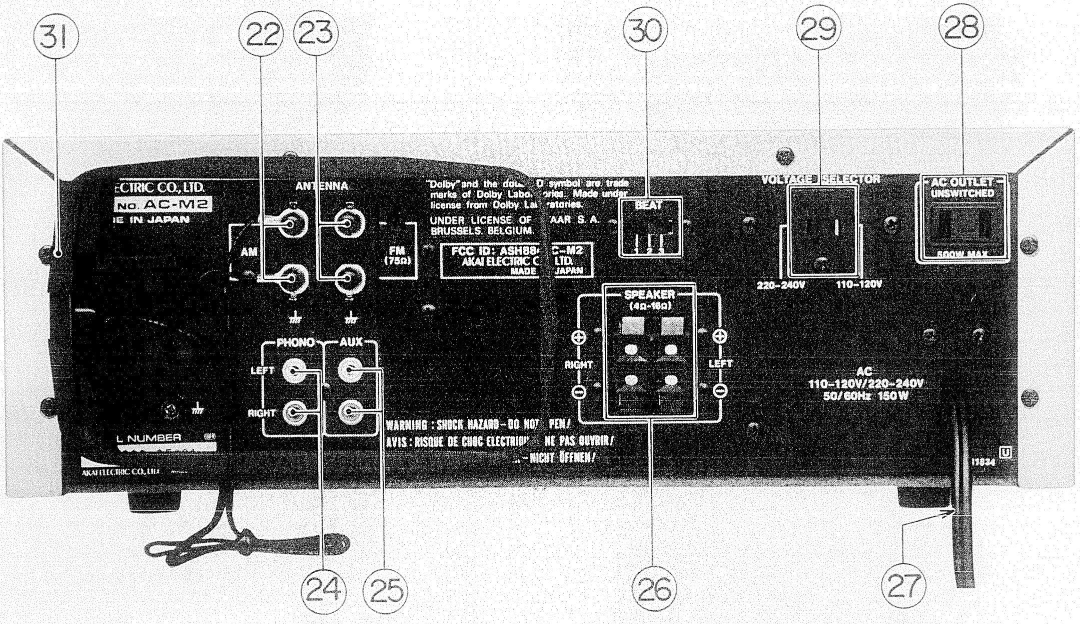


III. CONTROLS



1
2
3
4
5
6
7
8
9
10
AKAI
STEREO DECK RECEIVER AC-M2
POWER
TAPE COUNTER
FM
AM
MHz
kHz
BASS
TREBLE
BALANCE
VOLUME
LOUDNESS
MIN
MAX
EJECT
11
12
13
14
15
16
17
18
19
20
21

Fig. 3-1 Front Side



31
22
23
30
29
28
ANTENNA
AM
FM (75Ω)
No. AC-M2
BEAT
VOLTAGE SELECTOR
AC OUTLET UNSWITCHED
220-240V
110-120V
SPEAKER (4Ω-16Ω)
RIGHT
LEFT
PHONO
AUX
AC 110-120V/220-240V 50/60Hz 150W
24
25
26
27

Fig. 3-2 Rear Side

1. EJECT BUTTON
2. POWER SWITCH
3. CASSETTE HOLDER
4. TONE (BASS) CONTROL
5. TAPE COUNTER and RESET BUTTON
6. TONE (TREBLE) CONTROL
7. BALANCE CONTROL
8. VOLUME CONTROL
9. TUNING DIAL SCALE and INDICATOR
10. LOUDNESS SWITCH
11. OPERATION BUTTONS
12. MIC JACK
13. TAPE SELECTORS (Normal, CrO$_2$, METAL)
14. DOLBY-NR SWITCH
15. INPUT SOURCE SELECTORS (TAPE, PHONO, AUX)
16. BAND SELECTORS
17. FM MUTE SWITCH
18. FM MODE SELECTOR
19. SPEAKER SWITCH
20. PHONES JACK
21. TUNING CONTROL
22. AM LOOP ANTENNA TERMINAL
23. FM ANTENNA TERMINAL
24. PHONO JACKS
25. AUX JACKS
26. SPEAKER TERMINALS
27. AC CORD
28. AC OUTLET
29. VOLTAGE SELECTOR ($\boxed{U}$ Model only)
30. BEAT SELECTOR
31. LOOP ANTENNA

IV. PRINCIPAL PARTS LOCATION

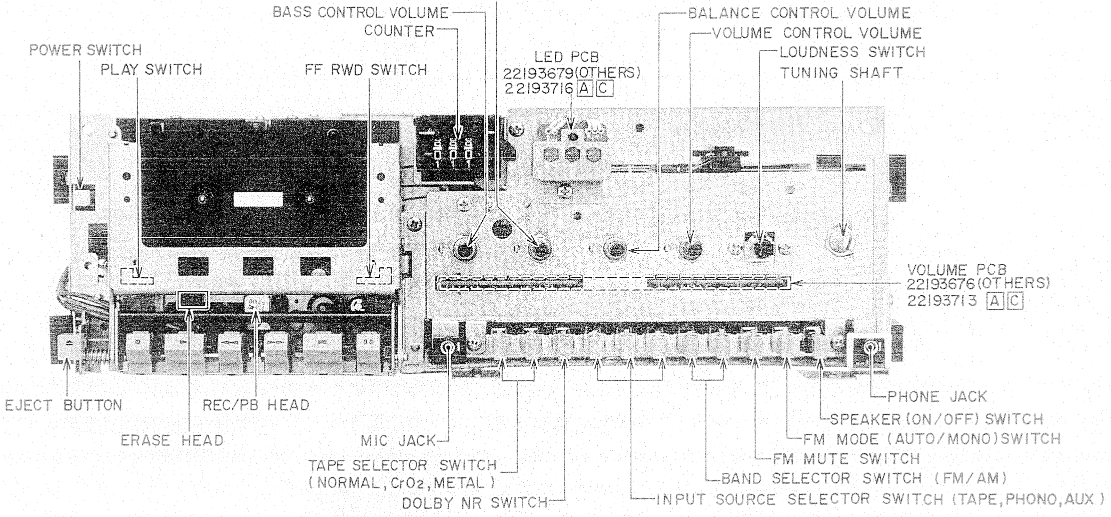

TREBLE CONTROL VOLUME
BASS CONTROL VOLUME
COUNTER
POWER SWITCH
PLAY SWITCH
FF RWD SWITCH
LED PCB
22193679(OTHERS)
22193716 A C
BALANCE CONTROL VOLUME
VOLUME CONTROL VOLUME
LOUDNESS SWITCH
TUNING SHAFT
VOLUME PCB
22193676(OTHERS)
22193713 A C
EJECT BUTTON
REC/PB HEAD
ERASE HEAD
MIC JACK
TAPE SELECTOR SWITCH
(NORMAL, CrO2, METAL)
DOLBY NR SWITCH
PHONE JACK
SPEAKER (ON/OFF) SWITCH
FM MODE (AUTO/MONO) SWITCH
FM MUTE SWITCH
BAND SELECTOR SWITCH (FM/AM)
INPUT SOURCE SELECTOR SWITCH (TAPE, PHONO, AUX)

Fig. 4-1 Front View

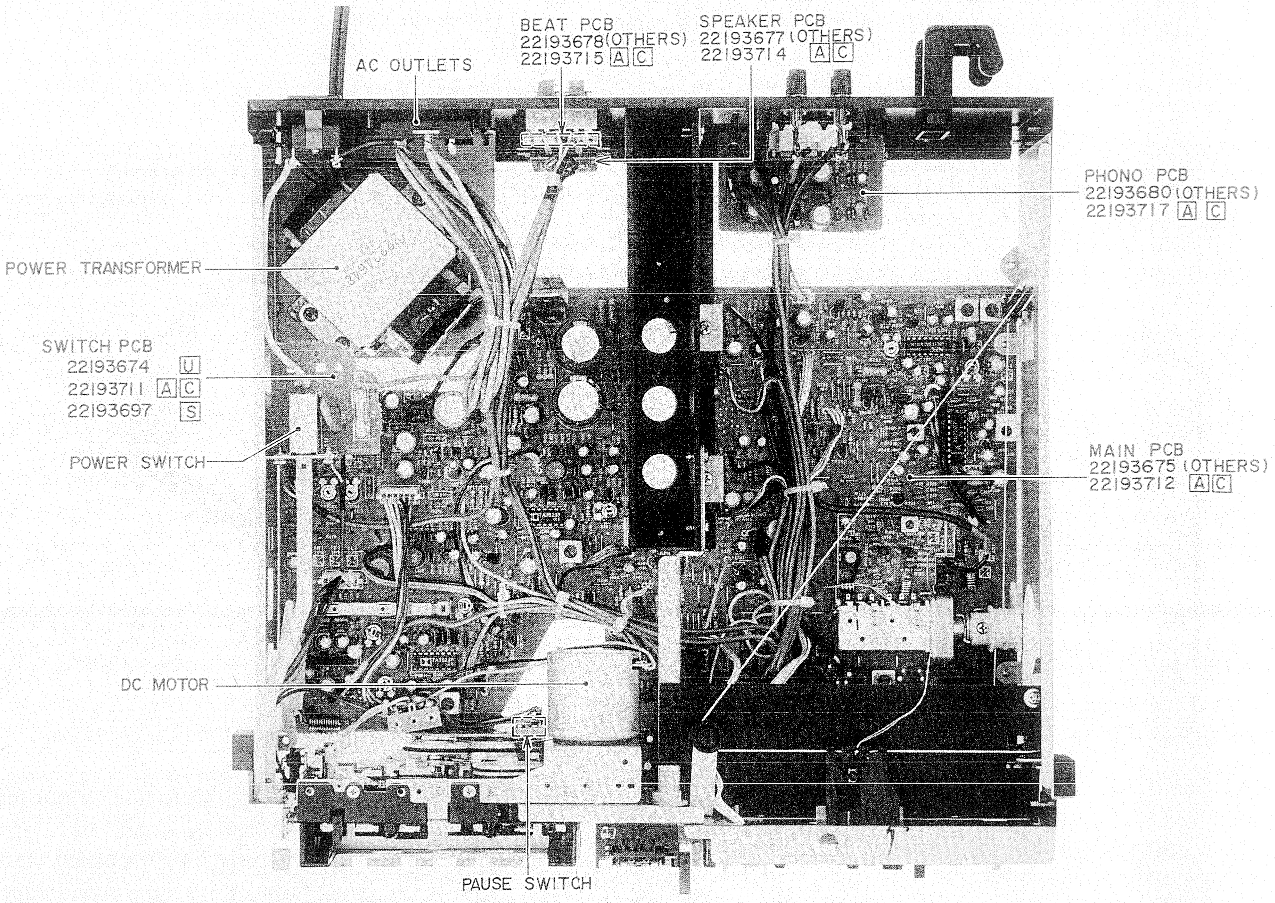

BEAT PCB
22193678(OTHERS)
22193715 A C
SPEAKER PCB
22193677 (OTHERS)
22193714 A C
AC OUTLETS
PHONO PCB
22193680 (OTHERS)
22193717 A C
POWER TRANSFORMER
SWITCH PCB
22193674 U
22193711 A C
22193697 S
POWER SWITCH
MAIN PCB
22193675 (OTHERS)
22193712 A C
DC MOTOR
PAUSE SWITCH

Fig. 4-2 Top View

V. MECHANICAL ADJUSTMENT

5-1. PINCH ROLLER PRESSURE MEASUREMENT (Refer to Fig. 5-1)

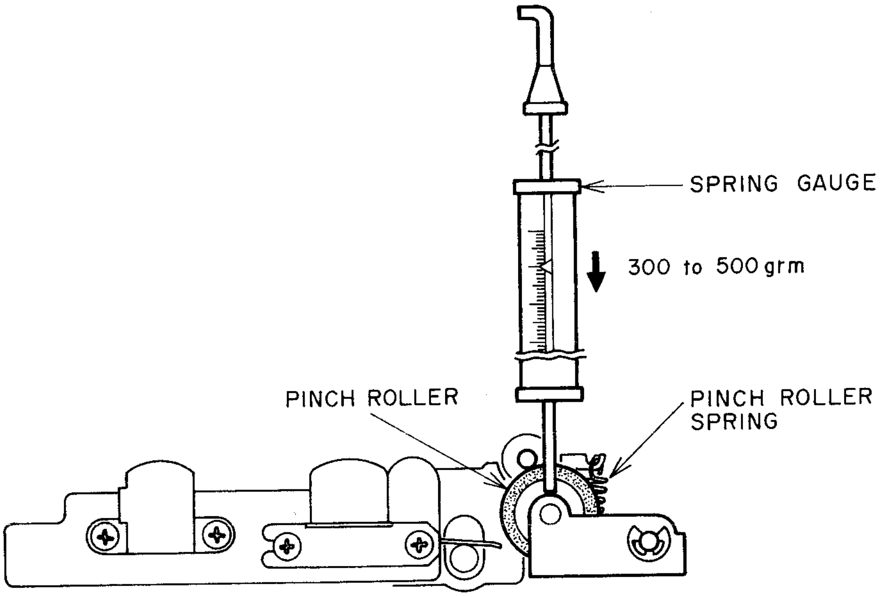

SPRING GAUGE
300 to 500 grm
PINCH ROLLER
PINCH ROLLER SPRING

Fig. 5-1

Put in PLAY mode, push pinch roller arm down with the spring gauge, push the pinch roller 1~2 mm from the capstan and release slowly. Read the spring gauge at the moment the pinch roller touches the capstan and begins to rotate.

Specified, contact pressure measurement of 300 to 500 grm. If there is no measurement obtained, replace the pinch roller spring.

5-2. WINDING TORQUE MEASUREMENT IN EACH MODE (Refer to Fig. 5-2)

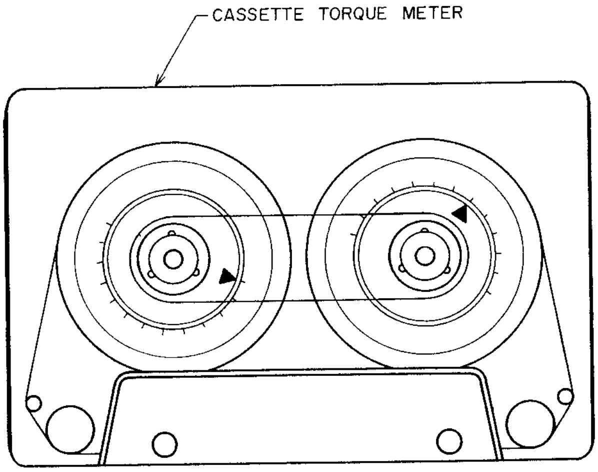

CASSETTE TORQUE METER

Fig. 5-2 Cassette Torque Meter

Insert cassette torque meter (AJ-751179) and measure in each mode.

For fast forward and rewind measure at the end of the tape has stopped running.

Forward play:	35 to 70 g-cm
Fast Forward, Rewind:	70 to 160 g-cm

5-3. TAPE SPEED ADJUSTMENT (Refer to Fig. 5-3)

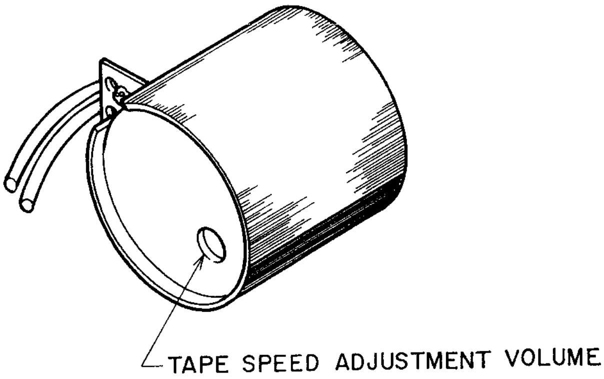

TAPE SPEED ADJUSTMENT VOLUME

Fig. 5-3

Connect a frequency counter to line output terminal. Playback a 1,000 Hz pre-recorded test tape (AT-750774) or a 3150 Hz, Pre-recorded test tape (AT-751263), and adjust the tape speed adjustment volume to obtain a tape speed of 1000 ± 1.0%, or 3150 ± 1.0%.

5-4. DIAL CORD STRINGING

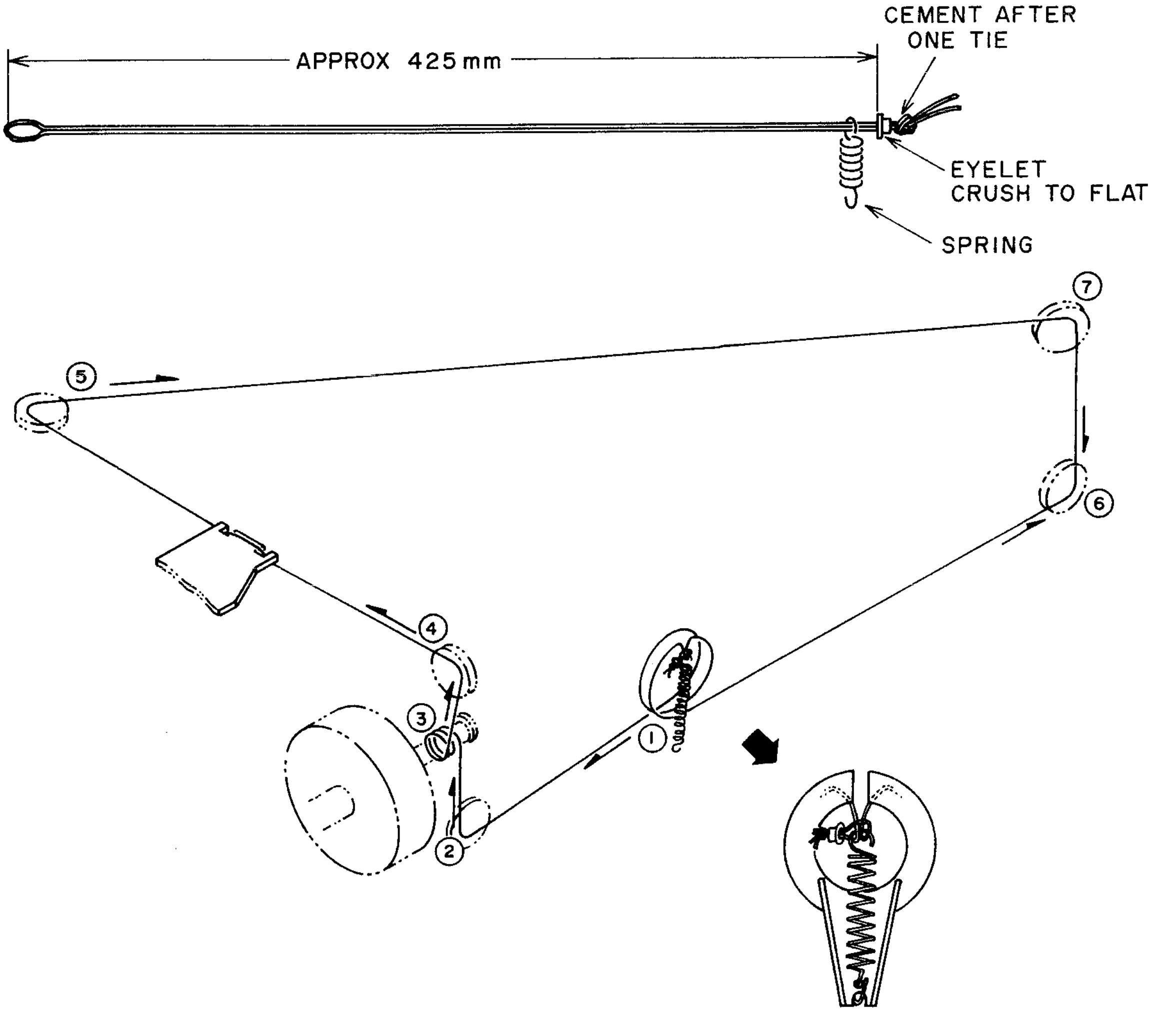

CEMENT AFTER ONE TIE
APPROX 425 mm
EYELET CRUSH TO FLAT
SPRING
①
②
③
④
⑤
⑥
⑦

Fig. 5-4

1) Set the tuning capacitor to the maximum capacitance (fully counterclockwise position).
2) Wind the dial cord in the numerical sequence as shown in Fig. 5-4.

VI. ELECTRICAL ADJUSTMENT

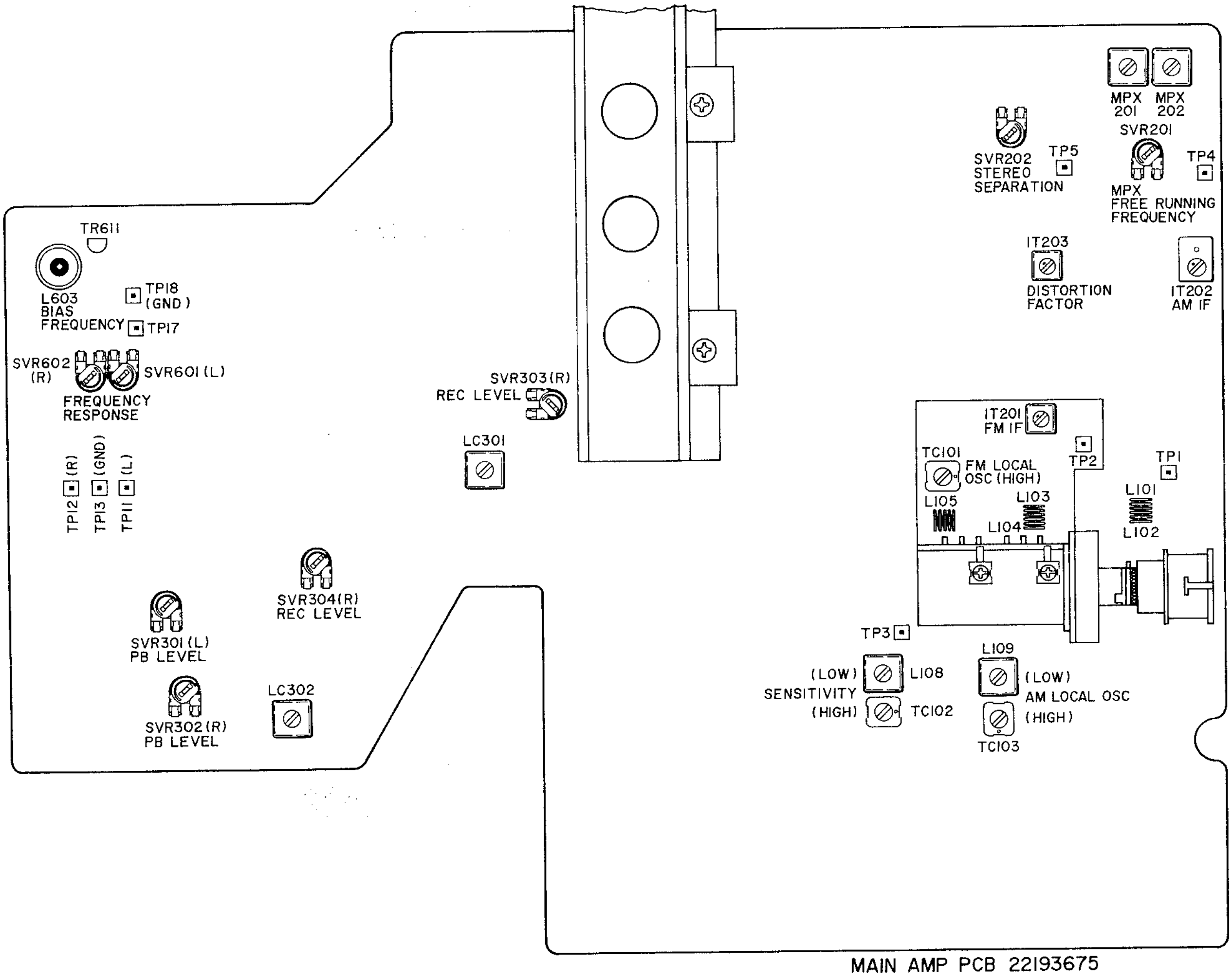

MPX 201
MPX 202
SVR201
SVR202 STEREO SEPARATION
TP5
TP4
MPX FREE RUNNING FREQUENCY
IT203
DISTORTION FACTOR
IT202 AM IF
TR611
L603 BIAS FREQUENCY
TP18 (GND)
TP17
SVR602 (R)
SVR601 (L)
FREQUENCY RESPONSE
SVR303(R) REC LEVEL
LC301
IT201 FM IF
TC101
FM LOCAL OSC (HIGH)
TP2
TP1
L105
L103
L104
L101
L102
TP12 (R)
TP13 (GND)
TP11 (L)
SVR304(R) REC LEVEL
SVR301 (L) PB LEVEL
SVR302 (R) PB LEVEL
LC302
TP3
(LOW) SENSITIVITY (HIGH)
L108
TC102
L109
(LOW) AM LOCAL OSC (HIGH)
TC103
MAIN AMP PCB 22193675

Fig. 6-1 Adjustment Points and Test Points of Main P.C Board

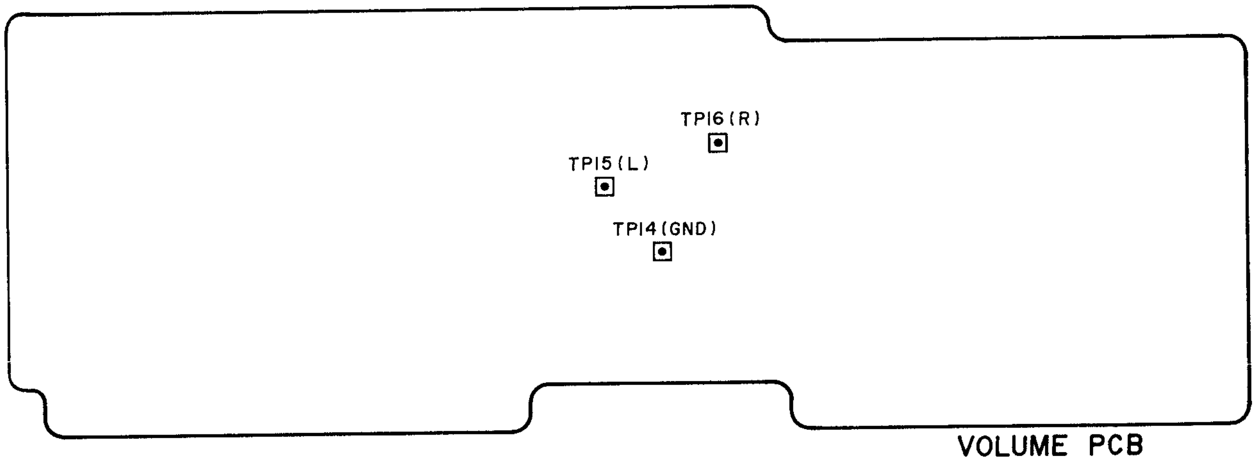

TP16 (R)
TP15 (L)
TP14 (GND)
VOLUME PCB

Fig. 6-2 Test Points of Volume P.C Board

6-1. AM (MW) ADJUSTMENT

1) Connect test equipment as shown in Fig. 6-3.
2) Function Switch to AM.
3) Generator modulation is 400 Hz, 30%.
4) Proceed as outline in the Chart.

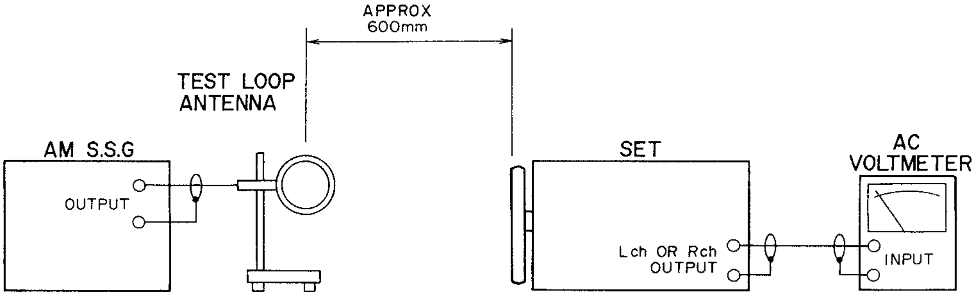

APPROX
600mm
TEST LOOP
ANTENNA
AM S.S.G
OUTPUT
SET
Lch OR Rch
OUTPUT
AC
VOLTMETER
INPUT

Fig. 6-3

Step	Adjustment Item	Input Signal	Adjustment Point	Result	Remarks
1	AM IF	459 kHz 50 dB	IT202	Maximum output	• Turn the Tuning Dial fully counterclockwise.
2	AM Local OSC (Low)	510 kHz 50 dB	L109	Maximum output	• Turn the Tuning Dial fully counterclockwise.
3	AM Local OSC (High)	1650 kHz 50 dB	TC103	Maximum output	• Turn the Tuning Dial fully clockwise.
4	Repeat Step 2 and 3 as Required.				
5	Low Range Sensitivity	600 kHz 50 dB	L108	Maximum output	• Tune to signal.
6	High Range Sensitivity	1400 kHz 50 dB	TC102	Maximum output	• Tune to signal.
7	Repeat Step 5 and 6 as required.				

6-2. FM SECTION ADJUSTMENT

1) Connect test equipment as shown in Fig. 6-4.
2) Push the FM Button.
3) Generator modulation is 1 kHz, 75 kHz diviation.
4) Proceed as outline in the Chart.

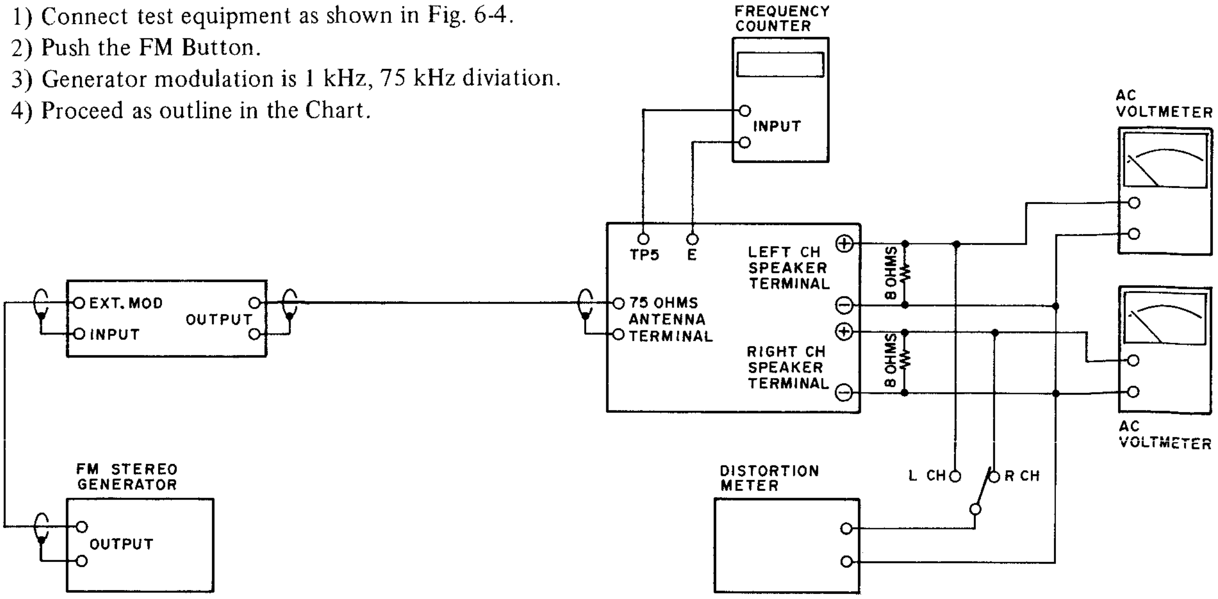

FREQUENCY
COUNTER
INPUT
AC
VOLTMETER
TP5
E
LEFT CH
SPEAKER
TERMINAL
8 OHMS
EXT. MOD
INPUT
OUTPUT
75 OHMS
ANTENNA
TERMINAL
RIGHT CH
SPEAKER
TERMINAL
8 OHMS
AC
VOLTMETER
FM STEREO
GENERATOR
OUTPUT
DISTORTION
METER
L CH
R CH

Fig. 6-4

Step	Adjustment Item	Input Signal	Adjustment Point	Result	Remarks
1	FM IF Coil		IT201	Maximum Noise Level	• MODE switch to MONO • FM MUTE switch to OFF • Tunes only Noise without interference from broadcasting.
2	Distortion Factor	98 MHz 60 dB	IT203	Minimum distortion	• MODE switch to MONO • FM MUTE switch to OFF
3	Repeat Step 1 and 2 as required.				
4	FM Local OSC (Low)	87.4 MHz 20 dB	L105	Maximum output	• MODE switch to MONO • FM MUTE switch to OFF • Turn the Tuning Dial fully counter-clockwise.
5	FM Local OSC (High)	109 MHz 20 dB	TC101	Maximum output	• MODE switch to MONO • FM MUTE switch to OFF • Turn the Tuning Dial fully clockwise.
6	Low Range Sensitivity (See Note 1)	90 MHz 10 dB	L102 L104	• Maximum output level • THD: within 3% distortion	• MODE switch to MONO • FM MUTE switch to OFF • Tune to signal.
7	High Range Sensitivity	106 MHz 10 dB	TCa TCr	• Maximum output • THD: within 3% distortion	• MODE switch to MONO • FM MUTE switch to OFF • Tune to signal.
8	Repeat Step 5 and 6 as required.				
9	MPX Free Running Frequency		SVR201	19 kHz ± 50 Hz	• MODE switch to MONO • FM MUTE switch to ON • Connect a Frequency Counter between TP-5 and GND.
10	Stereo Separation (Left → Right)	98 MHz 60 dB	SVR202	Minimum output	• MODE switch to STEREO • FM MUTE switch to ON • 10% Pilot (7.5 kHz diviation) • 90% Main & sub (67.5 kHz diviation) • Input only Left ch. • Minimum output of Right ch.
11	Stereo Separation (Right → Left)	98 MHz 60 dB	Confirmation	Minimum output	• Condition is same as Step 10. • Input only Right ch. • Minimum output of Left ch.

6-3. CASSETTE DECK SECTION ADJUSTMENT (Refer to Fig. 6-1 and Fig. 6-2)

Step	Adjustment Item	Test Tape or Supply Signal	Mode	Adjustment Point	Result	Remarks
1	Playback Level (See Note 2)	333 Hz or 315 Hz Test Tape	P.B	SVR301 (Left) SVR302 (Right)	180 mV 190 mV	• Connect a AC Voltmeter between TP-15 (Left), TP-16 (Right) and TP-14 (GND).
2	Bias Frequency		REC	L603	85 kHz	• Set Beat Switch to Position 2. • Connect a Frequency Counter between TP-17 and TP-18 (GND).
3	Recording Level	Normal Blank tape 1,000Hz 300mV	REC	SVR303 (Left) SVR304 (Right)	0.4 mV	• TR611 (2SC2236) Base to GND. • Tape Selector Switch to Normal position. • Connect a AC Voltmeter between TP-11 (Left), TP-12 (Right) and TP-13 (GND).
4	Frequency Response	Normal Blank tape 1,000 Hz, 10,000 Hz 30 mV Recording	REC/P.B	SVR601 (Left) SVR602 (Right)	1,000 Hz to 10,000 Hz flat	• Set Tape Selector Switch to Normal position. • Connect a AC Voltmeter between TP-15 (Left), TP-16 (Right) and TP-14 (GND).

NOTE: 1. Use the Maxell UD C-60 for Adjustment step 3 and 4.

2. As the test tape has been changed, set to 180 mV when using 333 Hz test tape. For details, refer to Service Guide (No. 0012) issued in Nov., 1982.

VII. CLASSIFICATION OF VARIOUS P.C BOARDS

7-1. P.C BOARD TITLES AND IDENTIFICATION NUMBERS

P.C Board Title	P.C Board Number	Remarks
MAIN P.C Board	22193675 22193712	U, S A, C
VOLUME P.C Board	22193676 22193713	U, S A, C
SPEAKER P.C Board	22193677 22193714	U, S A, C
BEAT P.C Board	22193678 22193715	U, S A, C
LED P.C Board	22193679 22193716	U, S A, C
PHONO P.C Board	22193680 22193717	U, S A, C
SWITCH P.C Board	22193674 22193711 22193697	U A, C S

7-2. COMPOSITION OF VARIOUS P.C BOARDS

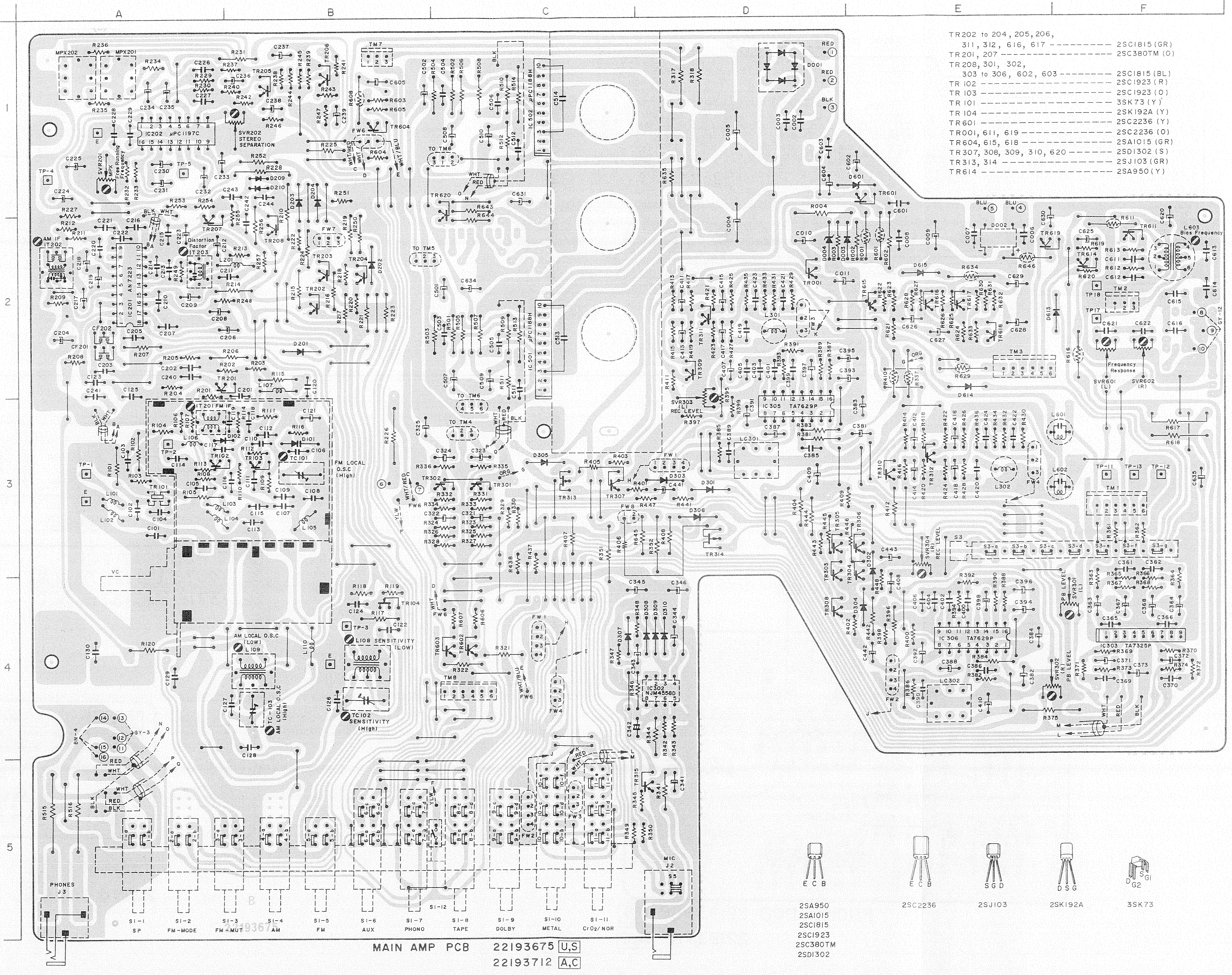
1) MAIN AMP P.C BOARD 22193675 (U, S), 22193712 (A, C)

LOCATION OF COMPONENTS

TR	
TR001	D2
TR101, 102	A3
TR103	B3
TR104	B4
TR201	A2
TR202 to 204	B2
TR205, 206	B1
TR207	A2
TR208	B2
TR301, 302	C3
TR303	D4
TR304	E4
TR305	D3
TR306	E3
TR307	C3
TR308	D4
TR309	D2
TR310	E3
TR311	D2
TR312	E3
TR313	C3
TR314	D3
TR315	D5
TR601	E1
TR602, 603	C4
TR604	B1
TR611, 614	F2
TR615 to 618	E2
TR619	F2
TR620	C1

IC	
IC201	A2
IC202	A1
IC302	D4
IC303	F4
IC305	D3
IC306	E4
IC501	C2
IC502	C1

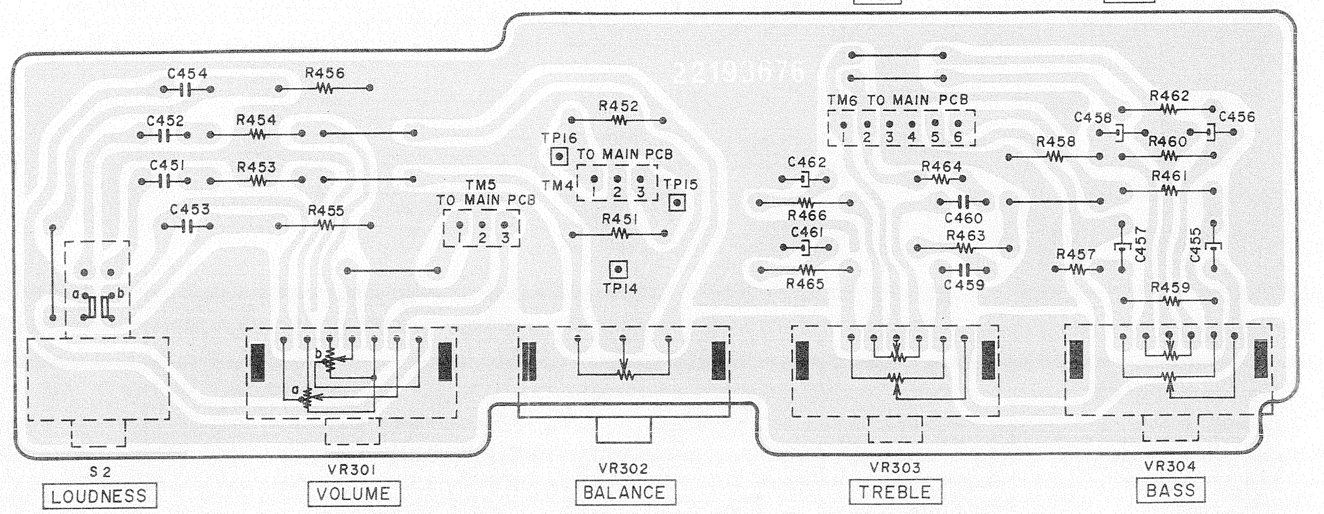
TERMINAL	
TP-1, 2	A3
TP-3	B4
TP-4, 5	A1
TP-11 to 13	F3
TP-17, 18	F2
TM 1	F3
TM 2	F2
TM 3	E3
TM 7	B1
TM 8	C4
FW 7	B2
FW 8	C3
① to ③	D1
④, ⑤	E2
⑥, ⑦	B3
⑧ to ⑩	F2
⑪ to ⑯	A4


A
B
C
D
E
F
1
2
3
4
5
MPX202
MPX201
IC202 μPC1197C
SVR202 STEREO SEPARATION
SVR201 Free Running Frequency
AM IF IT202
IC201 AN7223
Distortion Factor IT203
IT201 FM IF
FM LOCAL O.S.C (High)
TC101
AM LOCAL O.S.C (LOW) L109
L108 SENSITIVITY (LOW)
TC-103 AM LOCAL O.S.C (High)
TC102 SENSITIVITY (High)
IC502 μPC1188H
IC501 μPC1188H
TO TM6
TO TM5
TO TM4
TM7
TM8
IC305 TA7629P
IC306 TA7629P
IC302 NJM4558D
IC303 TA7325P
SVR303 REC LEVEL
SVR304 (R) REC LEVEL
SVR301 (L) PB LEVEL
SVR302 (R) PB LEVEL
SVR601 (L)
SVR602 (R)
Frequency Response
L603 Bias Frequency
LC301
LC302
S3
TM1
TM2
TM3
TP-11
TP-12
TP-13
TP-17
TP-18
D001
RED
BLK
BLU
WHT
PHONES J3
MIC J2
S1-1 SP
S1-2 FM-MODE
S1-3 FM-MUT
S1-4 AM
S1-5 FM
S1-6 AUX
S1-7 PHONO
S1-8 TAPE
S1-9 DOLBY
S1-10 METAL
S1-11 CrO2/NOR
S1-12
MAIN AMP PCB 22193675 U,S
22193712 A,C
E C B
2SA950
2SA1015
2SC1815
2SC1923
2SC380TM
2SD1302
E C B
2SC2236
S G D
2SJ103
D S G
2SK192A
D G2 S G1
3SK73

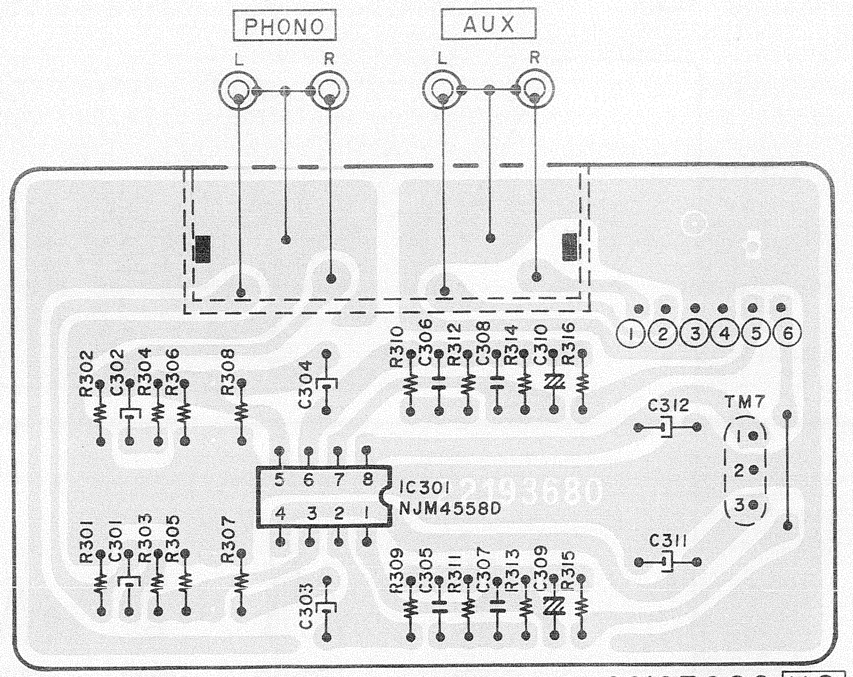
TR202 to 204, 205, 206, 311, 312, 616, 617	2SC1815 (GR)
TR201, 207	2SC380TM (O)
TR208, 301, 302, 303 to 306, 602, 603	2SC1815 (BL)
TR 102	2SC1923 (R)
TR 103	2SC1923 (O)
TR 101	3SK73 (Y)
TR 104	2SK192A (Y)
TR601	2SC2236 (Y)
TR001, 611, 619	2SC2236 (O)
TR604, 615, 618	2SA1015 (GR)
TR307, 308, 309, 310, 620	2SD1302 (S)
TR313, 314	2SJ103 (GR)
TR614	2SA950 (Y)

2) VOLUME P.C BOARD 22193676 (U, S), 22193713 (A, C)

VOLUME PCB 22193676 U,S 22193713 A,C

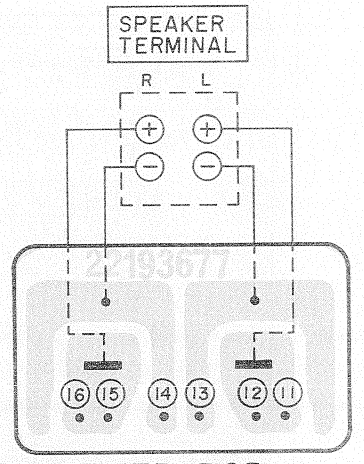

22193676
C454
R456
C452
R454
C451
R453
C453
R455
R452
TP16
TO MAIN PCB
TM4
1 2 3
TP15
TM5
TO MAIN PCB
1 2 3
R451
TP14
TM6 TO MAIN PCB
1 2 3 4 5 6
C462
R464
R466
C461
R465
C460
R463
C459
R462
C458
R458
R460
C456
R461
R457
C457
C455
R459
a
b
S2
LOUDNESS
VR301
VOLUME
VR302
BALANCE
VR303
TREBLE
VR304
BASS

3) PHONO P.C BOARD 2219 3680 (U, S), 22193717 (A, C)

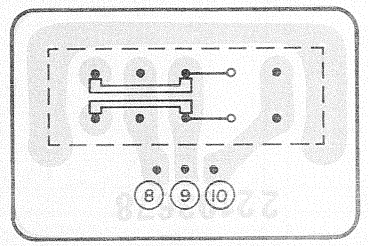

PHONO
L
R
AUX
L
R
R302
C302
R304
R306
R308
C304
R310
C306
R312
C308
R314
C310
R316
1 2 3 4 5 6
C312
TM7
1
2
3
5 6 7 8
4 3 2 1
IC301
NJM4558D
22193680
R301
C301
R303
R305
R307
C303
R309
C305
R311
C307
R313
C309
R315
C311

PHONO PCB 22193680 U,S
22193717 A,C

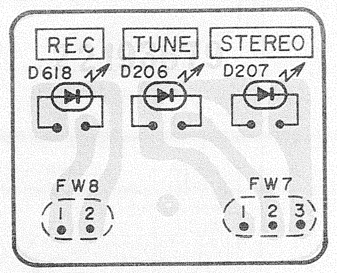
4) SPEAKER P.C BOARD 22193677 (U, S), 22193714 (A, C), BEAT P.C BOARD 22193678 (U, S), 22193715 (A, C) and LED P.C BOARD 22193679 (U, S), 22193716 (A, C)


SPEAKER TERMINAL
R
L
+
+
−
−
22193677
16
15
14
13
12
11

SPEAKER PCB
22193677 U,S
22193714 A,C

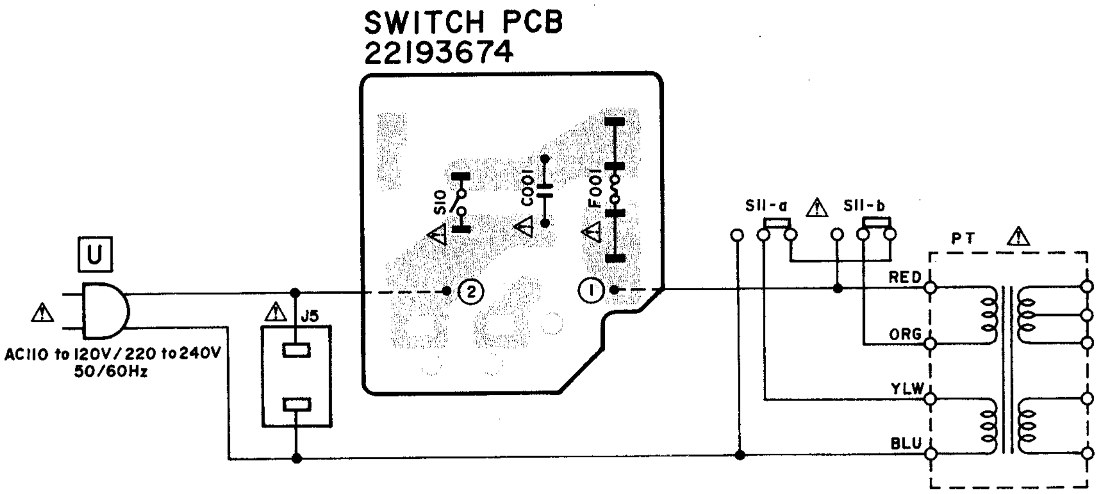


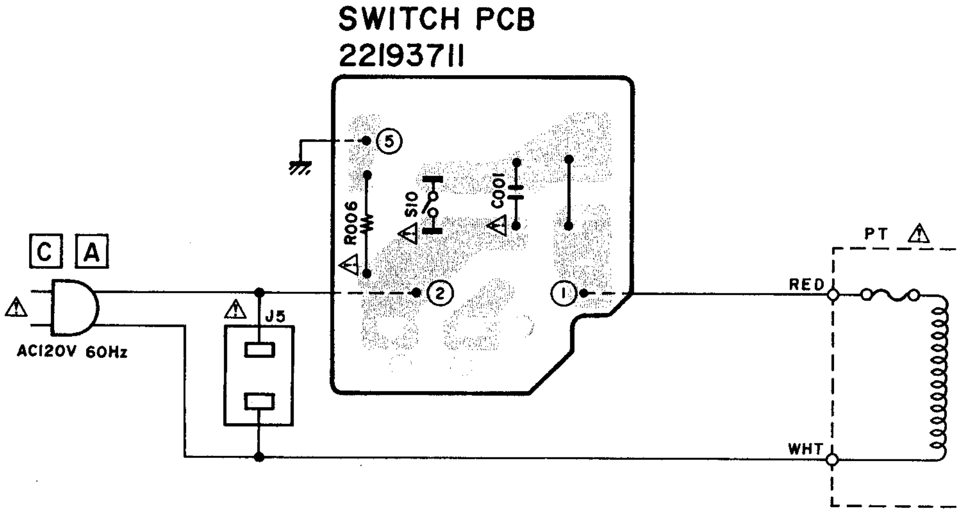
BEAT PCB
22193678 U,S
22193715 A,C

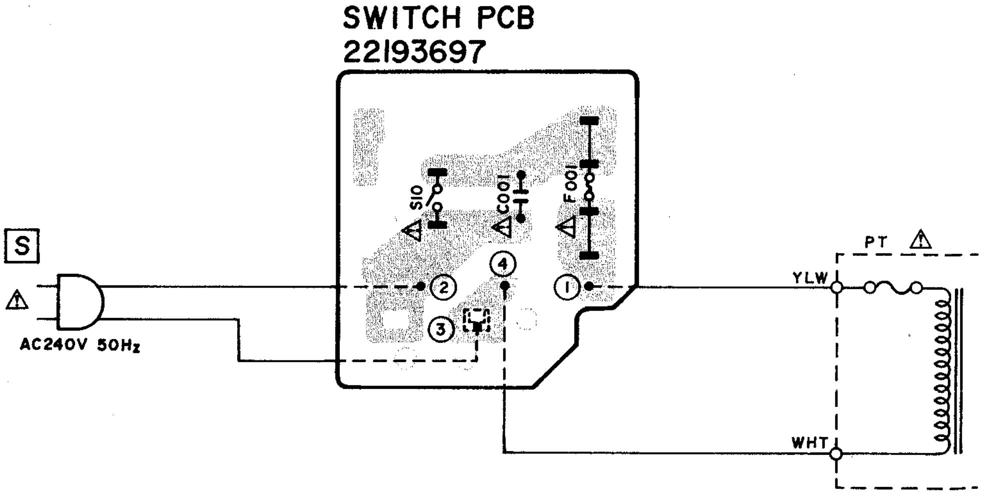

REC
TUNE
STEREO
D618
D206
D207
FW8
1 2
FW7
1 2 3

LED PCB
22193679 U,S
22193716 A,C

5) SWITCH P.C BOARD 22193674 (U), 22193711 (A, C), 22193697 (S)


SWITCH PCB
22193674
U
⚠
AC110 to 120V/220 to 240V
50/60Hz
⚠ J5
S10
⚠
C001
⚠
F001
⚠
②
①
S11-a ⚠ S11-b
PT ⚠
RED
ORG
YLW
BLU


SWITCH PCB
22193711
C A
⚠
AC120V 60Hz
⚠ J5
⑤
R006
⚠
S10
⚠
C001
⚠
②
①
PT ⚠
RED
WHT


SWITCH PCB
22193697
S
⚠
AC240V 50Hz
S10
⚠
C001
⚠
F001
⚠
②
③
④
①
PT ⚠
YLW
WHT

WARNING: ⚠INDICATES SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

AVERTISSEMENT: ⚠IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDEES PAR LE FABRICANT

MEMO

SECTION 2

PARTS LIST

TABLE OF CONTENTS

RECOMMENDED SPARE PARTS 21
1. MECHA BLOCK (1/2) 22
2. MECHA BLOCK (2/2) 24
3. MAIN P.C BOARD BLOCK 25
4. ASSEMBLY BLOCK 26
5. FINAL ASSEMBLY BLOCK 28
INDEX 29

Resistor and Capacitor which is not listed in this parts list, please refer to COMMON LIST FOR SERVICE PARTS.

ATTENTION

1. When placing an order for parts, be sure to list the parts no. model no., and description. There are instances in which if any of this information is omitted, parts cannot be shipped or the wrong parts will be delivered.
2. Please be careful not to make a mistake in the parts no. If the parts no. is in error, a part different from the one ordered may be delivered.
3. Because parts number and parts unit supply in the Preliminary Parts List may be partially changed, please use this parts list for all future reference.

HOW TO USE THIS PARTS LIST

1. This Parts List shows the parts that are considered necessary for repairs. Other parts, such as resistors and capacitors, are shown in the "Common List for Service Parts". Select and order such parts from the "Common List for Service Parts".
2. The Recommended Spare Parts shows those parts in the Parts List which are considered particularly important for service.
3. Parts not shown in the Parts List and "Common List for Service Parts" will not be supplied in principle.
4. How to read list

a) Mechanism Block

2. HEAD BASE BLOCK

REF. NO.	PARTS NO.	DESCRIPTION
2-1x	BH-T2023A320A	HEAD BASE BLOCK GX-F66R
2-2	HP-H2206A010A	HEAD R/P PR4-8FU C
2-3	ZS-477876	PAN20x03STL CMT
2-4	ZS-536488	BID20x08STL CMT
2-5	ZG-402895	CS ANGLE ADJUST SPRING

SP (Service Parts) Classification

A small "x" indicates the inability to show that particular part in the Photo or Illustration.

This number corresponds with the individual parts index number in that figure

This number corresponds with the Figure Number

b) P.C Board Block

6. SYS. CON. P.C BOARD BLOCK

REF. NO.	PARTS NO.	DESCRIPTION
6-1	BA-T2034A070A	PC SYS CON BLK GX-F44R
6-IC1	EI-324536	IC HD14049BP
6-IC2	EI-336801	IC MB8841-564M
6-IC3	EI-331661	IC SN7405N
6-IC4	EI-336725	IC M54527P
6-TR1to4	ET-200985	TR 2SC2603 F,G
6-TR5to28	ET-554657	TR 2SA733A P,Q
6-D1	ED-318292	D SILICON H 1S2473T-77 T26
6-D2to4	ED-308952	D GERMA V 1K34A-LR F07
6-D5to10	ED-318292	D SILICON H 1S2473T-77 T26
6-X1	EI-318384	OSC X'TAL NC-18C 3.579545MHZ

SP (Service Parts) Classification

This reference numbers corresponds with symbol numbers of Schematic Diagrams.

5. Both the kind of part and installation position can be determined by the Parts Number. To determine where a parts number is listed, utilize Parts Index at end of Parts List. It is necessary first of all to find the Parts Number. This can be accomplished by using the Reference Number listed at right of parts number in the Parts Index.

WARNING

⚠ INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS.

AVERTISSEMENT

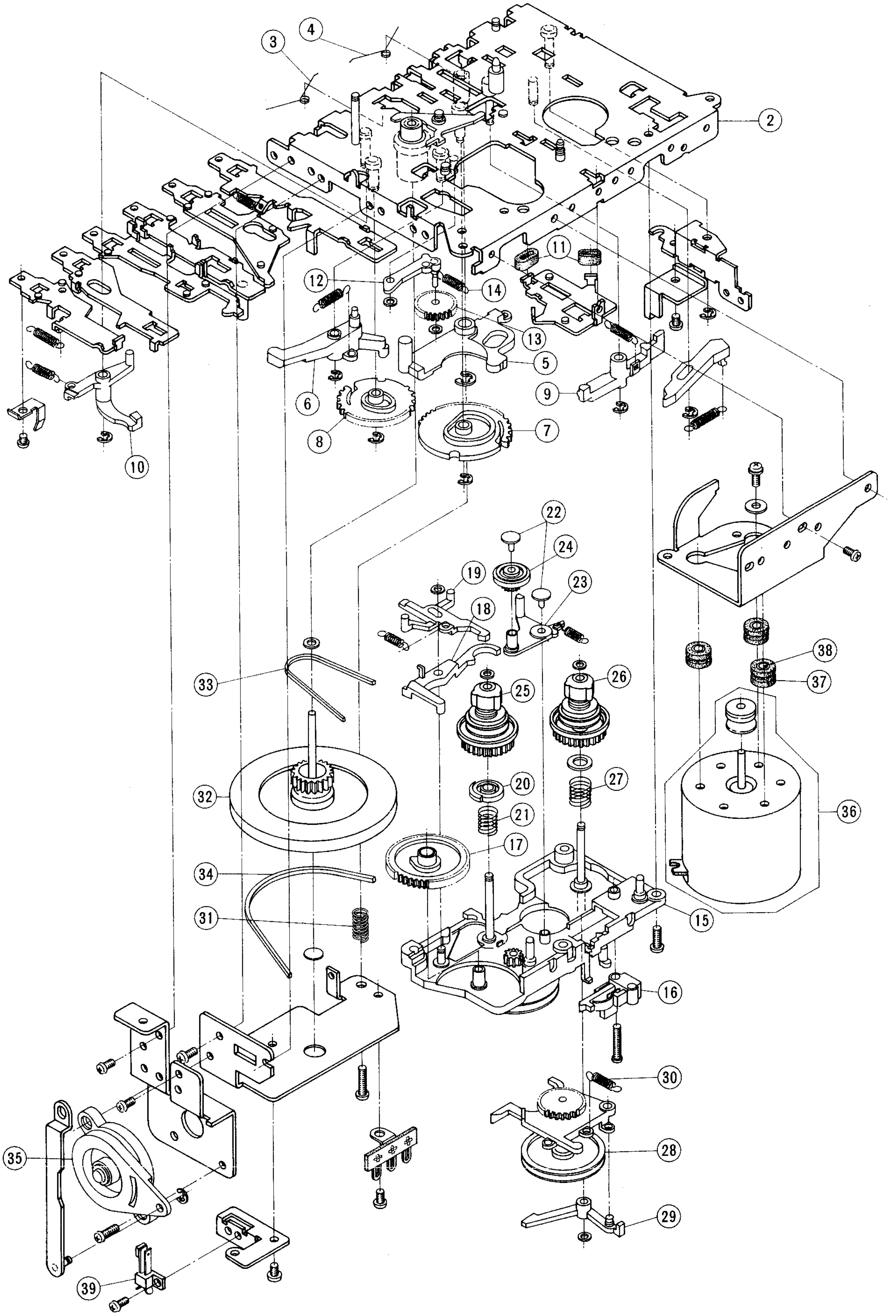
⚠ IL INDIQUE LES COMPOSANTS CRITIQUES DE SURETE. POUR MAINTENIR LE DEGRE DE SECURITE DE L'APPAREIL NE REMPLACER LES COMPOSANTS DONT LE FONCTIONNEMENT EST CRITIQUE POUR LA SECURITE QUE PAR DES PIECES RECOMMANDEES PAR LE FABRICANT.

RECOMMENDED SPARE PARTS

Because, if the parts listed below are on hand, almost any repair can be accomplished, we suggest that you stock these Recommended Spare Parts Items.

NO.	PARTS NO.	DESCRIPTION
1	BL-749274	PINCH ROLLER ARM ASSY
2	BM-749287	MOTOR ASSY
3	BR-749260	REEL TABLE S ASSY
4	BR-749259	REEL TABLE TU ASSY
5	BT-709485	TRANS IF AM-M-CE
6	BT-709407	TRANS IFT FM-D
7	BT-707852	TRANS IFT FM-M
8	BT-749232	⚠ TRANS POWER AC-M2 (B,S)
9	BT-749225	⚠ TRANS POWER AC-M2 (C,A)
10	BT-749217	⚠ TRANS POWER AC-M2 (U)
11	BZ-749284	DAMPER ASSY
12	EC-741922	C S-FIX 8PF
13	ED-709441	D LED SG238W
14	ED-709518	D LED TLG206 GREEN
15	ED-709517	D LED TLR206 RED
16	ED-706596	D SILICON KB-167
17	ED-710386	D SILICON MA165
18	ED-707776	D SILICON S1WB-10
19	ED-703290	D SILICON S2VB10
20	ED-702195	D SILICON 1S1555V–TP3
21	ED-749214	D ZENER MA1120A (TA)
22	ED-749211	D ZENER MA1130M (TA)
23	EF-702200	⚠ FUSE 1S-T
24	EH-749216	FILTER CE
25	EH-710363	FILTER LC
26	EI-709399	IC AN7223
27	EI-213390	IC NJM4558D
28	EI-709447	IC TA7325P
29	EI-709247	IC TA7629P
30	EI-702184	IC μPC1188H
31	EI-701061	IC μPC1197C
32	EJ-709454	MIC J 3.5
33	EJ-709455	PHONE J 3.5ST
34	EO-710389	COIL ANT MW
35	EO-709425	COIL CHOKE AF 12MH
36	EO-702240	COIL CHOKE AF 4.70MH
37	EO-709482	COIL CHOKE 229
38	EO-709483	COIL CHOKE 229
39	EO-709409	COIL MPX
40	EO-709464	COIL OSC AF
41	EO-710388	COIL OSC MW
42	EO-709479	COIL RF FM
43	EO-709480	COIL RF FM
44	ER-710379	⚠ R FUSE 1/4W 100J
45	ER-704152	⚠ R FUSE 1/4W 220J
46	ER-710380	⚠ R FUSE 1/4W 4R7J
47	ER-704791	⚠ R FUSE 1/4W 470J
48	ES-749250	SW LEAF
49	ES-749289	SW LEAF
50	ES-749290	SW LEAF
51	ES-749291	SW LEAF
52	ES-709452	SW PUSH
53	ES-710399	⚠ SW PUSH
54	ES-749215	SW PUSH 11THROW
55	ES-709398	⚠ SW SLIDE
56	ES-709451	SW SLIDE
57	ES-709453	SW SLIDE
58	ET-336867	TR FET 3SK73 Y
59	ET-308867	TR 2SA1015 O,Y,GR
60	ET-703482	TR 2SA950-Y
61	ET-330225	TR 2SC1815 BL
62	ET-305221	TR 2SC1815 O,Y GR
63	ET-702676	TR 2SC1923-0
64	ET-702699	TR 2SC1923R
65	ET-306719	TR 2SC2236 O,Y
66	ET-702700	TR 2SC380TM O
67	ET-338565	TR 2SD1302 R,S
68	ET-709448	TR 2SJ103 GR
69	ET-709400	TR 2SK192A-Y
70	EV-706604	R S-FIX 102
71	EV-706603	R S-FIX 103
72	EV-749213	R S-FIX 204
73	EV-749212	R S-FIX 503
74	EV-709459	VR ROTARY 16B-200K D-T
75	EV-709461	VR ROTARY 16C-10K-D
76	EV-709460	VR ROTARY 16W-200K
77	HE-749286	HEAD ERASE
78	HR-749285	HEAD R/P
79	MB-749277	BELT
80	MB-749278	BELT
81	MB-749288	COUNTER BELT
82	MI-749276	FLYWHEEL
83	MI-749258	IDLER PLAY

MECHA BLOCK (1/2)

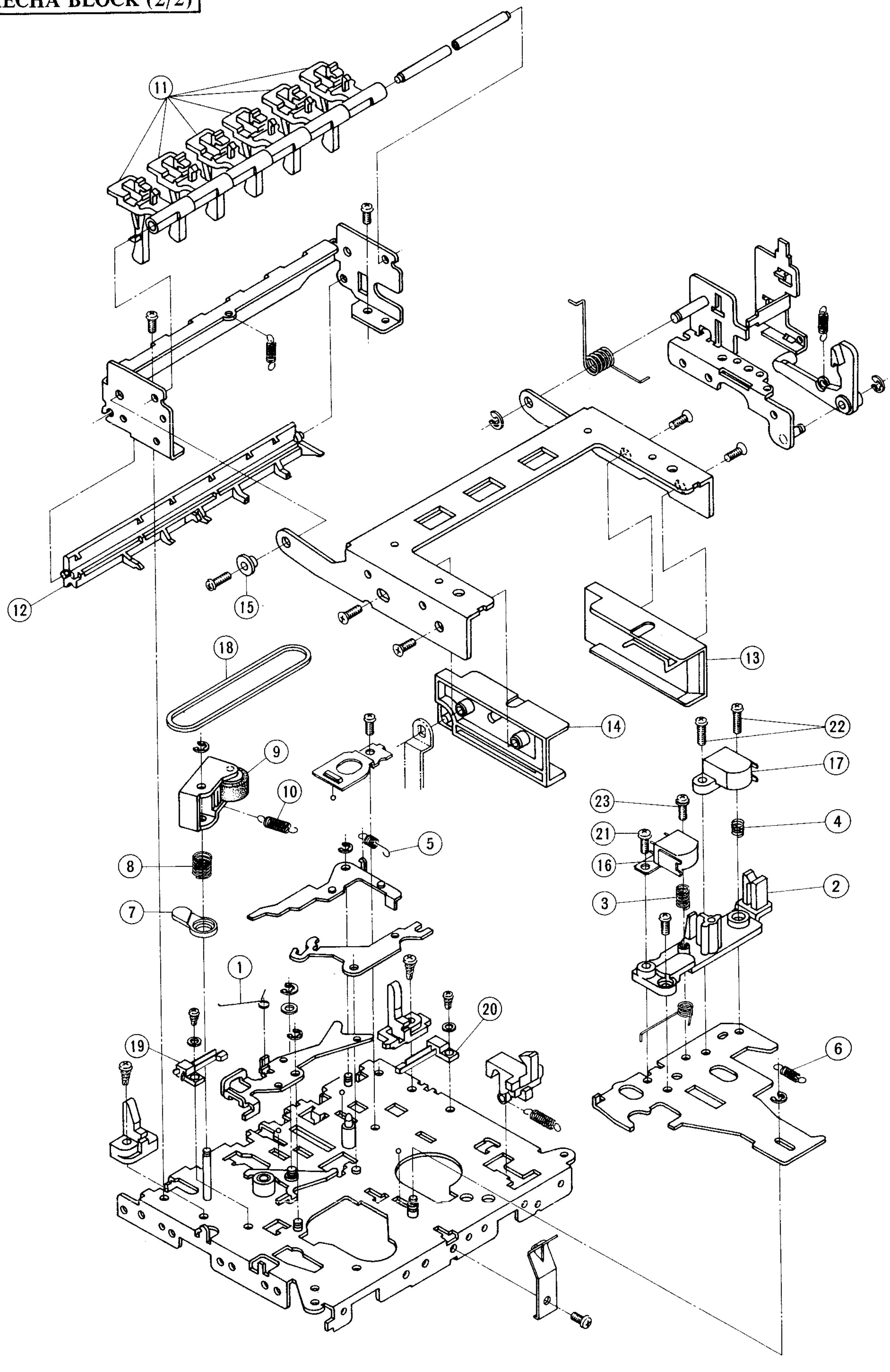


2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39

1. MECHA BLOCK (1/2)

REF. NO.	PARTS NO.	DESCRIPTION
1-1	BZ-749224	MECHA BLOCK
1-2	MZ-749236	MECHA CHASSIS
1-3	ML-749237	SP LEVER (B)
1-4	ML-749238	SP LEVER (A)
1-5	ML-749239	ARM SHIFT (A)
1-6	ML-749240	ARM SHIFT (B)
1-7	MZ-749241	GEAR (A)
1-8	MZ-749242	GEAR (B)
1-9	MZ-749243	LOCK ARM (A)
1-10	MZ-749244	LOCK ARM (B)
1-11	TC-749245	BRAKE RUBBER
1-12	BL-749246	FF IDLER ARM ASSY
1-13	MZ-749247	GEAR FF
1-14	ZG-749248	SP FF GEAR
1-15	BZ-749249	REEL BASE ASSY
1-16	ES-749250	SW LEAF
1-17	MZ-749251	GEAR AUTO
1-18	MZ-749252	ARM SENSOR
1-19	MZ-749253	ARM AUTO
1-20	BZ-749254	AUTO CLUTCH ASSY
1-21	ZG-749255	SP TENSION
1-22	MZ-749256	BUSH
1-23	MZ-749257	ARM PLAY
1-24	MI-749258	IDLER PLAY
1-25	BR-749259	REEL TABLE TU ASSY
1-26	BR-749260	REEL TABLE S ASSY
1-27	ZG-749261	SP BACK TENSION
1-28	BL-749262	PULLEY ARM FR ASSY
1-29	MZ-749263	ARM REW
1-30	ZG-749264	SP PULLEY ARM FR
1-31	ZG-749265	SP ADJUST
1-32	MI-749276	FLYWHEEL
1-33	MB-749277	BELT
1-34	MB-749278	BELT
1-35	BZ-749284	DAMPER ASSY
1-36	BM-749287	MOTOR ASSY
1-37	MB-702313	CUSHION
1-38	MH-702315	COLLAR MOTOR
1-39	ES-749291	SW LEAF

MECHA BLOCK (2/2)


11
12
15
18
13
14
22
17
9
10
23
4
21
5
8
16
2
3
7
1
20
19
6

2. MECHA BLOCK (2/2)

REF. NO.	PARTS NO.	DESCRIPTION
2-1	ZG-749266	SP AUTO LOCK ARM
2-2	MZ-749267	HEAD BASE
2-3	ZG-749268	SP HEAD
2-4	ZG-749269	SP HEAD
2-5	ZG-749270	SP FR LOCK ARM
2-6	ZG-749271	SP BRAKE
2-7	HZ-749272	CAM PAUSE
2-8	ZG-749273	SP CAM PAUSE
2-9	BL-749274	PINCH ROLLER ARM ASSY
2-10	ZG-749275	SP PINCH ROLLER
2-11	ML-749279	LEVER BUTTON
2-12	MZ-749280	CAM LOCK (F)
2-13	MZ-749281	CASSETTE POKET (L)
2-14	MZ-749282	CASSETTE POKET (R)
2-15	MZ-749283	COLLAR CASE
2-16	HR-749285	HEAD R/P
2-17	HE-749286	HEAD ERASE
2-18	MB-749288	COUNTER BELT
2-19	ES-749289	SW LEAF
2-20	ES-749290	SW LEAF
2-21	ZS-536488	BID20×08STL CMT
2-22	ZS-749292	BID20×8.5STL CMT
2-23	ZS-749293	BID20×09STL CMT TW
2-24x	MC-710466	COUNTER TAPE
2-25x	BD-749294	LID DECORATION PART

3. MAIN P.C BOARD BLOCK

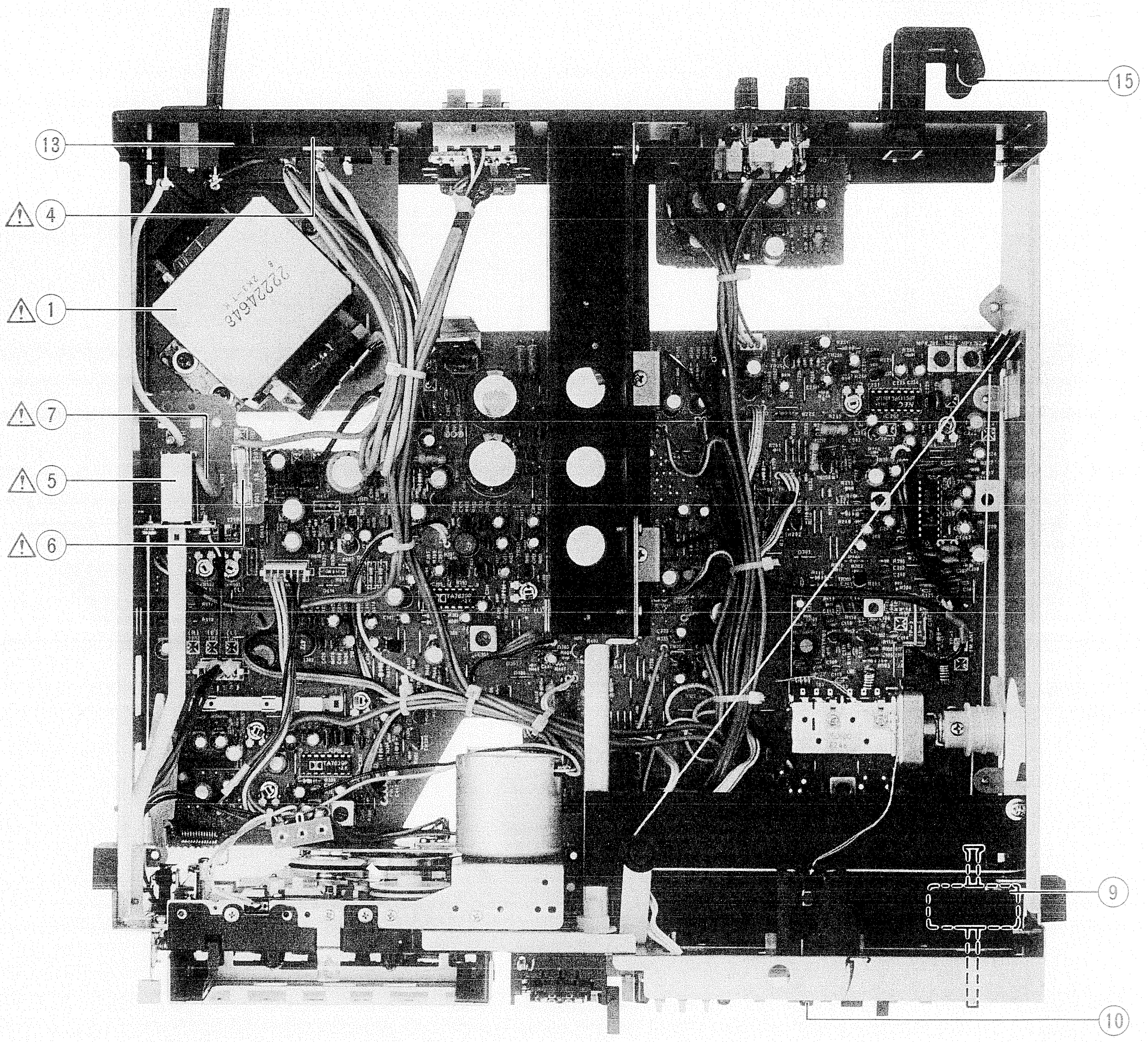
REF. NO.	PARTS NO.	DESCRIPTION
3-1U	BA-749210	PC MAIN BLK AC-M2 (U)
3-1C	BA-749226	PC MAIN BLK AC-M2 (C,A)
3-1S	BA-749235	PC MAIN BLK AC-M2 (S)
	MAIN P.C BOARD	
3-IC201	EI-709399	IC AN7223
3-IC202	EI-701061	IC μPC1197C
3-IC302	EI-213390	IC NJM4558D
3-IC303	EI-709447	IC TA7325P
3-IC305,306	EI-709247	IC TA7629P
3-IC501,502	EI-702184	IC μPC1188H
3-TR001	ET-306719	TR 2SC2236 O,Y
3-TR101	ET-336867	TR FET 3SK73 Y
3-TR102	ET-702699	TR 2SC1923R
3-TR103	ET-702676	TR 2SC1923-0
3-TR104	ET-709400	TR 2SK192A-Y
3-TR201	ET-702700	TR 2SC380TM O
3-TR202to206	ET-305221	TR 2SC1815 O,Y GR
3-TR207	ET-702700	TR 2SC380TM O
3-TR208	ET-330225	TR 2SC1815 BL
3-TR301to306	ET-330225	TR 2SC1815 BL
3-TR307to310	ET-338565	TR 2SD1302 R,S
3-TR311,312	ET-305221	TR 2SC1815 O,Y GR
3-TR313,314	ET-709448	TR 2SJ103 GR
3-TR315	ET-330225	TR 2SC1815 BL
3-TR601	ET-306719	TR 2SC2236 O,Y
3-TR602,603	ET-330225	TR 2SC1815 BL
3-TR604	ET-308867	TR 2SA1015 O,Y,GR
3-TR611	ET-306719	TR 2SC2236 O,Y
3-TR614	ET-703482	TR 2SA950-Y
3-TR615	ET-308867	TR 2SA1015 O,Y,GR
3-TR616,617	ET-305221	TR 2SC1815 O,Y GR
3-TR618	ET-308867	TR 2SA1015 O,Y,GR
3-TR619	ET-306719	TR 2SC2236 O,Y
3-TR620	ET-338565	TR 2SD1302 R,S
3-D001	ED-703290	D SILICON S2VB10
3-D002	ED-707776	D SILICON S1WB-10
3-D003	ED-702195	D SILICON 1S1555V-TP3
3-D004	ED-749211	D ZENER MA1130M (TA)
3-D101	ED-706596	D SILICON KB-167
3-D102	ED-710386	D SILICON MA165
3-D201to204	ED-702195	D SILICON 1S1555V-TP3
3-D209,210	ED-710386	D SILICON MA165
3-D301to310	ED-702195	D SILICON 1S1555V-TP3
3-D601	ED-749214	D ZENER MA1120M (TA)
3-D613to615	ED-702195	D SILICON 1S1555V-TP3
3-J2	EJ-709454	MIC J 3.5
3-J3	EJ-709455	PHONE J 3.5ST
3-S1	ES-749215	SW PUSH 11THROW
3-S3	ES-709451	SW SLIDE
3-SV201	EV-706603	R S-FIX 103
3-SV202	EV-706604	R S-FIX 102
3-SV301,302	EV-749212	R S-FIX 503
3-SV303,304	EV-706603	R S-FIX 103
3-SV601,602	EV-749213	R S-FIX 204
3-L101	EO-709479	COIL RF FM
3-L102	EO-709480	COIL RF FM
3-L103	EO-709479	COIL RF FM
3-L104,105	EO-709480	COIL RF FM
3-L106	EO-709483	COIL CHOKE 229
3-L107	EO-709482	COIL CHOKE 229
3-L108	EO-710389	COIL ANT MW
3-L109	EO-710388	COIL OSC MW
3-L110	EO-709482	COIL CHOKE 229
3-L201	EO-709482	COIL CHOKE 229
3-L301,302	EO-702240	COIL CHOKE AF 4.70MH
3-L601,602	EO-709425	COIL CHOKE AF 12MH
3-L603	EO-709464	COIL OSC AF
3-IT201	BT-707852	TRANS IFT FM-M
3-IT202	BT-709485	TRANS IF AM-M-CE
3-IT203	BT-709407	TRANS IFT FM-D
3-CF201,202	EH-749216	FILTER CE
3-MP201,202	EO-709409	COIL MPX
3-TC101to103	EC-741922	C S-FIX 8PF

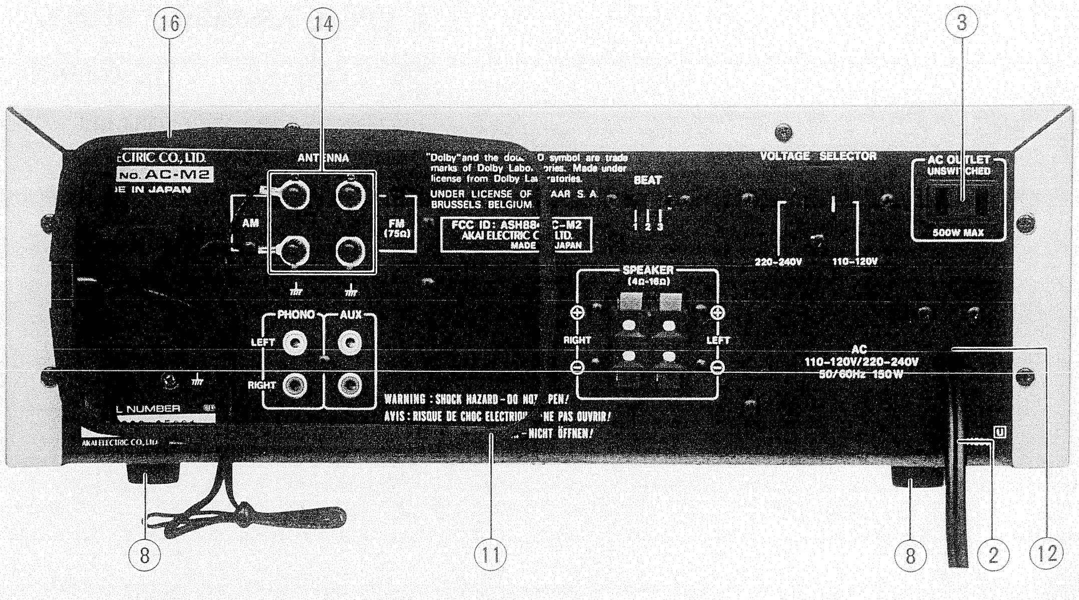
REF. NO.	PARTS NO.	DESCRIPTION
3-LC301,302	EH-710363	FILTER LC
3-R001	ER-702368	⚠ R FUSE 1/4W 2R2J
3-R004	ER-337794	R MF H S15 FS 1W 821J
3-R210	ER-331562	R OMF H SNP FS 1W 471J
3-R226	ER-330978	R OMF H FS 1W 102J
3-R228	ER-331562	R OMF H SNP FS 1W 471J
3-R317,318	ER-331187	R OMF H FS 1W 272J
3-R337	ER-704791	⚠ R FUSE 1/4W 470J
3-R351,352	ER-331187	R OMF H FS 1W 272J
3-R375	ER-331562	R OMF H SNP FS 1W 471J
3-R410	ER-704791	⚠ R FUSE 1/4W 470J
3-R513,514	ER-658124	R OMF H FS 1W 100J
3-R515,516	ER-304175	R OMF H FS 2W 151J
3-R601	ER-710380	⚠ R FUSE 1/4W 4R7J
3-R602	ER-301697	R OMF H FS 1W 561J
3-R608	ER-710379	R FUSE 1/4W 100J
3-R611	ER-710380	⚠ R FUSE 1/4W 4R7J
3-R616	ER-704152	⚠ R FUSE 1/4W 220J
3-R617	ER-701107	R OMF 1W 151J
3-R618	ER-308503	R OMF H FS 1W 181J
3-R629	ER-710379	⚠ R FUSE 1/4W 100J
3-R634	ER-704791	⚠ R FUSE 1/4W 470J
3-R646	ER-710379	⚠ R FUSE 1/4W 100J
3-C004,005	EC-710377	C EC V 472M 30.0DC
3-C009	EC-710378	C EC V 222M 25.0DC
3-2	EC-709477	VC AIR
	PHONO P.C BOARD	
3-IC301	EI-213390	IC NJM4558D
3-J1	EJ-709456	PIN J US4P
	VR P.C BOARD	
3-VR301	EV-709459	VR ROTARY 16B-200K D-T
3-VR302	EV-709460	VR ROTARY 16W-200K
3-VR303,304	EV-709461	VR ROTARY 16C-10K-D
3-S2	ES-709452	SW PUSH
	SP P.C BOARD	
3-J4	EJ-709458	TERMINAL PUSH 4P
	BEAT P.C BOARD	
3-S4	ES-709453	SW SLIDE
	LED P.C BOARD	
3-D206	ED-709518	D LED TLG206 GREEN
3-D207	ED-709517	D LED TLR206 RED
3-D618	ED-709517	D LED TLR206 RED

4. ASSEMBLY BLOCK

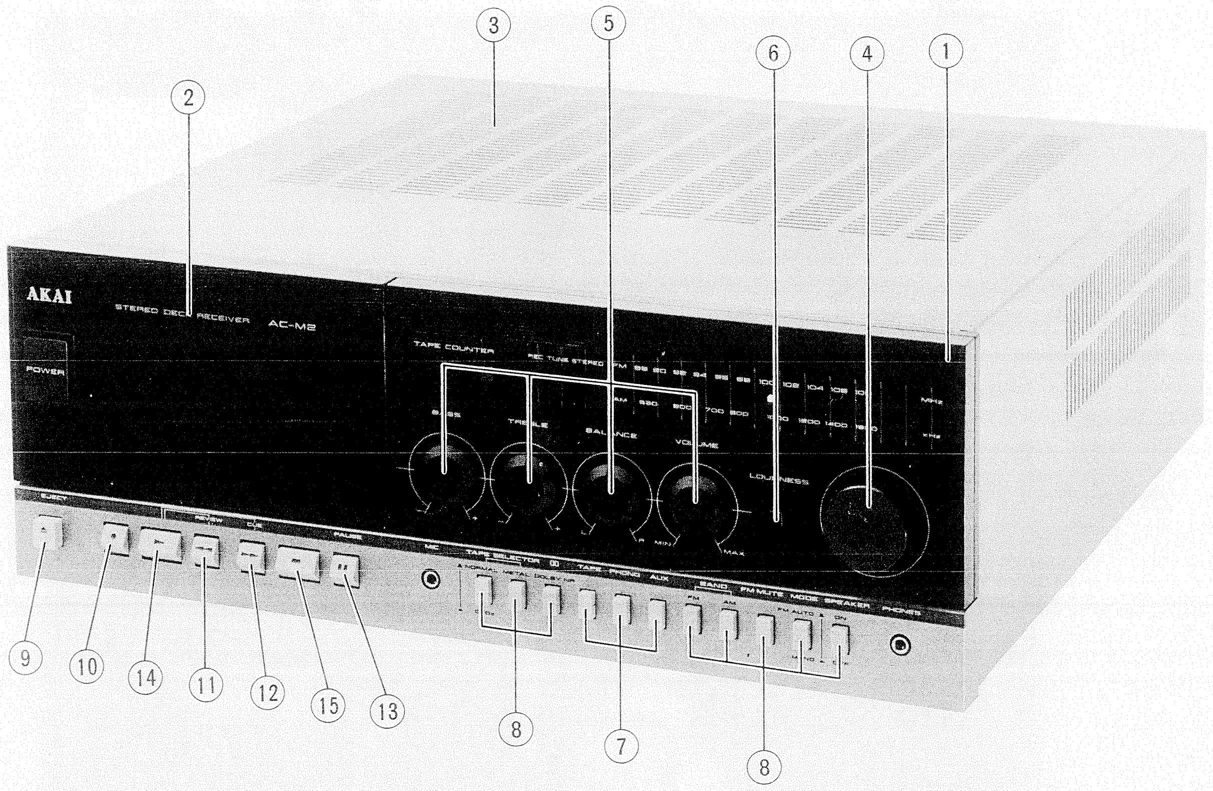
REF. NO.	PARTS NO.	DESCRIPTION
4-1U	BT-749217	⚠ TRANS POWER AC-M2 (U)
4-1C	BT-749225	⚠ TRANS POWER AC-M2 (C,A)
4-1S	BT-749232	⚠ TRANS POWER AC-M2 (B,S)
4-2U	EW-343363	⚠ AC CORD 2 CORES KP-8, SPT-2 UC (U,C,A)
4-2S	EW-201515	⚠ AC CORD 2 CORES KP-560, LTSA-2 F S (S)
4-3	EJ-749218	⚠ SOCKET OUTLET 2P (U,C,A)
4-4	ES-709398	⚠ SW SLIDE (S11) (U)
4-5	ES-710399	⚠ SW PUSH (S10)
4-6	EF-702200	⚠ FUSE 1S-T (F001) (EXCEPT C,A)
4-7	EC-338411	⚠ C CE V FZ 103P 400AC (C001)
4-8	SA-710419	FOOT
4-9	TA-710426	SHAFT TUNING
4-10	ED-709441	D LED SG238W (D208)
4-11U	SP-749222	PANEL REAR AC-M2 (U)
4-11C	SP-749227	PANEL REAR AC-M2 (C,A)
4-11S	SP-749234	PANEL REAR AC-M2 (S)
4-12	SZ-710448	HOLDER CODE
4-13	SZ-710449	HOLDER CODE
4-14	EJ-710451	TERMINAL SCREW 4P
4-15	SZ-710453	HOLDER ANT
4-16	EE-709445	ANT LOOP

ASSEMBLY BLOCK




⑯
⑭
③
ANTENNA
AM
FM (75Ω)
PHONO
AUX
LEFT
RIGHT
BEAT
VOLTAGE SELECTOR
220-240V
110-120V
AC OUTLET UNSWITCHED
500W MAX
SPEAKER (4Ω-16Ω)
AC 110-120V/220-240V 50/60Hz 150W
WARNING : SHOCK HAZARD-DO NOT OPEN!
AVIS : RISQUE DE CHOC ELECTRIQUE-NE PAS OUVRIR!
NICHT ÖFFNEN!
⑧
⑪
⑧
②
⑫

FINAL ASSEMBLY BLOCK


3
5
6
4
1
2
AKAI
STEREO DECK RECEIVER AC-M2
POWER
TAPE COUNTER
BASS
TREBLE
BALANCE
VOLUME
LOUDNESS
EJECT
PAUSE
MIC
TAPE SELECTOR
TAPE
PHONO
AUX
BAND
FM
AM
FM MUTE
MODE
SPEAKER
PHONES
MIN
MAX
9
10
14
11
12
15
13
8
7
8

5. FINAL ASSEMBLY BLOCK

REF. NO.	PARTS NO.	DESCRIPTION
5-1	BD-749220	PANEL FRONT BLK AC-M2
5-2	BD-749221	LID PANEL ASSY AC-M2
5-3	SP-749219	COVER UPPER
5-4	SK-710410	KNOB TUNING
5-5	SK-710411	KNOB VOLUME
5-6	SK-710412	KNOB PUSH LUD
5-7	SK-710413	KNOB PUSH SW
5-8	SK-710415	KNOB PUSH SW
5-9	SK-710473	KNOB EJECT
5-10	SK-710474	KNOB REC
5-11	SK-710475	KNOB REW
5-12	SK-710476	KNOB FF
5-13	SK-710477	KNOB PAUSE
5-14	SK-710478	KNOB PLAY
5-15	SK-710479	KNOB STOP

INDEX

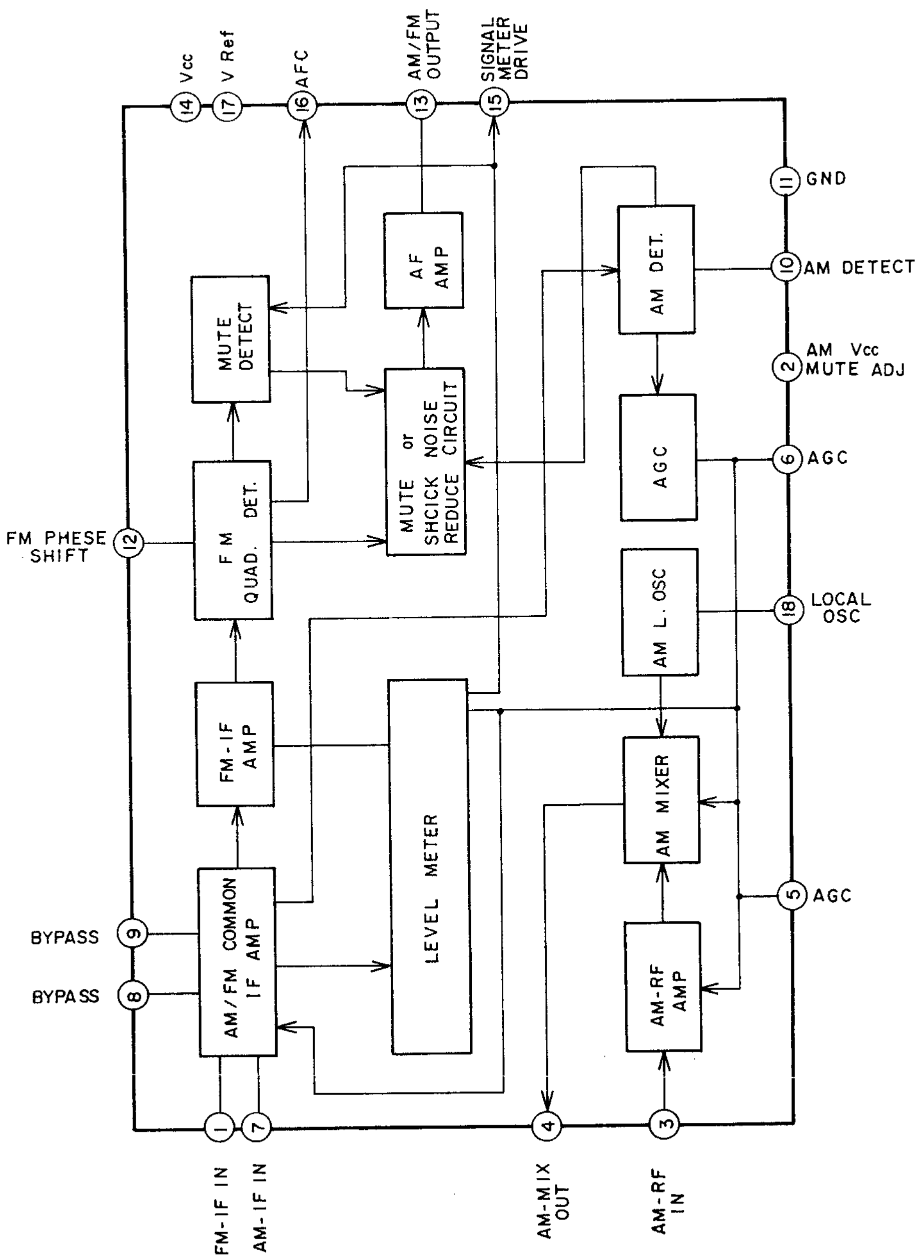
PARTS NO.	REF. NO.
BA-749210	3-1U
BA-749226	3-1C
BA-749235	3-1S
BD-749220	5-1
BD-749221	5-2
BD-749294	2-25x
BL-749246	1-12
BL-749262	1-28
BL-749274	2-9
BM-749287	1-36
BR-749259	1-25
BR-749260	1-26
BT-707852	3-IT201
BT-709407	3-IT203
BT-709485	3-IT202
BT-749217	4-1U
BT-749225	4-1C
BT-749232	4-1S
BZ-749224	1-1
BZ-749249	1-15
BZ-749254	1-20
BZ-749284	1-35
EC-338411	4-7
EC-709477	3-2
EC-710377	3-C004
EC-710377	3-C005
EC-710378	3-C009
EC-741922	3-TC102
EC-741922	3-TC101
EC-741922	3-TC103
ED-702195	3-D308
ED-702195	3-D309
ED-702195	3-D307
ED-702195	3-D303
ED-702195	3-D306
ED-702195	3-D305
ED-702195	3-D304
ED-702195	3-D301
ED-702195	3-D003
ED-702195	3-D302
ED-702195	3-D614
ED-702195	3-D310
ED-702195	3-D615
ED-702195	3-D613
ED-702195	3-D202
ED-702195	3-D201
ED-702195	3-D204
ED-702195	3-D203
ED-703290	3-D001
ED-706596	3-D101
ED-707776	3-D002
ED-709441	4-10
ED-709517	3-D618
ED-709517	3-D207
ED-709518	3-D206
ED-710386	3-D209
ED-710386	3-D210
ED-710386	3-D102
ED-749211	3-D004
ED-749214	3-D601
EE-709445	4-16
EF-702200	4-6
EH-710363	3-LC302
EH-710363	3-LC301
EH-749216	3-CF202
EH-749216	3-CF201
EI-213390	3-IC301
EI-213390	3-IC302
EI-701061	3-IC202
EI-702184	3-IC501
EI-702184	3-IC502
EI-709247	3-IC305
EI-709247	3-IC306
EI-709399	3-IC201
EI-709447	3-IC303
EJ-709454	3-J2
EJ-709455	3-J3
EJ-709456	3-J1
EJ-709458	3-J4
EJ-710451	4-14
EJ-749218	4-3
EO-702240	3-L301
EO-702240	3-L302
EO-709409	3-MP202
EO-709409	3-MP201
EO-709425	3-L602
EO-709425	3-L601
EO-709464	3-L603
EO-709479	3-L103
EO-709479	3-L101
EO-709480	3-L104
EO-709480	3-L102
EO-709480	3-L105
EO-709482	3-L107
EO-709482	3-L201
EO-709482	3-L110
EO-709483	3-L106
EO-710388	3-L109
EO-710389	3-L108
ER-301697	3-R602
ER-304175	3-R516
ER-304175	3-R515
ER-308503	3-R618
ER-330978	3-R226
ER-331187	3-R317
ER-331187	3-R351
ER-331187	3-R318
ER-331187	3-R352
ER-331562	3-R228
ER-331562	3-R210
ER-331562	3-R375
ER-337794	3-R004
ER-658124	3-R514
ER-658124	3-R513
ER-701107	3-R617
ER-702368	3-R001
ER-704152	3-R616
ER-704791	3-R634
ER-704791	3-R337
ER-704791	3-R410
ER-710379	3-R629
ER-710379	3-R646
ER-710379	3-R608
ER-710380	3-R601
ER-710380	3-R611
ES-709398	4-4
ES-709451	3-S3
ES-709452	3-S2
ES-709453	3-S4
ES-710399	4-5
ES-749215	3-S1
ES-749250	1-16
ES-749289	2-19
ES-749290	2-20
ES-749291	1-39
ET-305221	3-TR617
ET-305221	3-TR311
ET-305221	3-TR204
ET-305221	3-TR203
ET-305221	3-TR616
ET-305221	3-TR202
ET-305221	3-TR312
ET-305221	3-TR206
ET-305221	3-TR205
ET-306719	3-TR601
ET-306719	3-TR611
ET-306719	3-TR001
ET-306719	3-TR619
ET-308867	3-TR604
ET-308867	3-TR615
ET-308867	3-TR618
ET-330225	3-TR302
ET-330225	3-TR306
ET-330225	3-TR305
ET-330225	3-TR304
ET-330225	3-TR301
ET-330225	3-TR208
ET-330225	3-TR303
ET-330225	3-TR603
ET-330225	3-TR602
ET-330225	3-TR315
ET-336867	3-TR101
ET-338565	3-TR309
ET-338565	3-TR620
ET-338565	3-TR308
ET-338565	3-TR310
ET-338565	3-TR307
ET-702676	3-TR103
ET-702699	3-TR102
ET-702700	3-TR207
ET-702700	3-TR201
ET-703482	3-TR614
ET-709400	3-TR104
ET-709448	3-TR313
ET-709448	3-TR314
EV-706603	3-SV201
EV-706603	3-SV304
EV-706603	3-SV303
EV-706604	3-SV202
EV-709459	3-VR301
EV-709460	3-VR302
EV-709461	3-VR304
EV-709461	3-VR303
EV-749212	3-SV301
EV-749212	3-SV302
EV-749213	3-SV602
EV-749213	3-SV601
EW-201515	4-2S
EW-343363	4-2U
HE-749286	2-17
HR-749285	2-16
HZ-749272	2-7
MB-702313	1-37
MB-749277	1-33
MB-749278	1-34
MB-749288	2-18
MC-710466	2-24x
MH-702315	1-38
MI-749258	1-24
MI-749276	1-32
ML-749237	1-3
ML-749238	1-4
ML-749239	1-5
ML-749240	1-6
ML-749279	2-11
MZ-749236	1-2
MZ-749241	1-7
MZ-749242	1-8
MZ-749243	1-9
MZ-749244	1-10
MZ-749247	1-13
MZ-749251	1-17
MZ-749252	1-18
MZ-749253	1-19
MZ-749256	1-22
MZ-749257	1-23
MZ-749263	1-29
MZ-749267	2-2
MZ-749280	2-12
MZ-749281	2-13
MZ-749282	2-14
MZ-749283	2-15
SA-710419	4-8
SK-710410	5-4
SK-710411	5-5
SK-710412	5-6
SK-710413	5-7
SK-710415	5-8
SK-710473	5-9
SK-710474	5-10
SK-710475	5-11
SK-710476	5-12
SK-710477	5-13
SK-710478	5-14
SK-710479	5-15
SP-749219	5-3
SP-749222	4-11U
SP-749227	4-11C
SP-749234	4-11S
SZ-710448	4-12
SZ-710449	4-13
SZ-710453	4-15
TA-710426	4-9
TC-742945	1-11
ZG-749248	1-14
ZG-749255	1-21
ZG-749261	1-27
ZG-749264	1-30
ZG-749265	1-31
ZG-749266	2-1
ZG-749268	2-3
ZG-749269	2-4
ZG-749270	2-5
ZG-749271	2-6
ZG-749273	2-8
ZG-749275	2-10
ZS-536488	2-21
ZS-749292	2-22
ZS-749293	2-23

SECTION 3

SCHEMATIC DIAGRAM

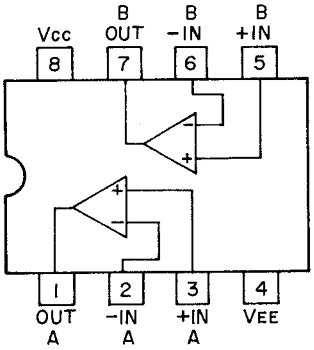
1. SCHEMATIC DIAGRAM OF ICs 30
2. AC-M2 (DECK RECEIVER) NO. 830310A SCHEMATIC DIAGRAM ... 33

AN7223

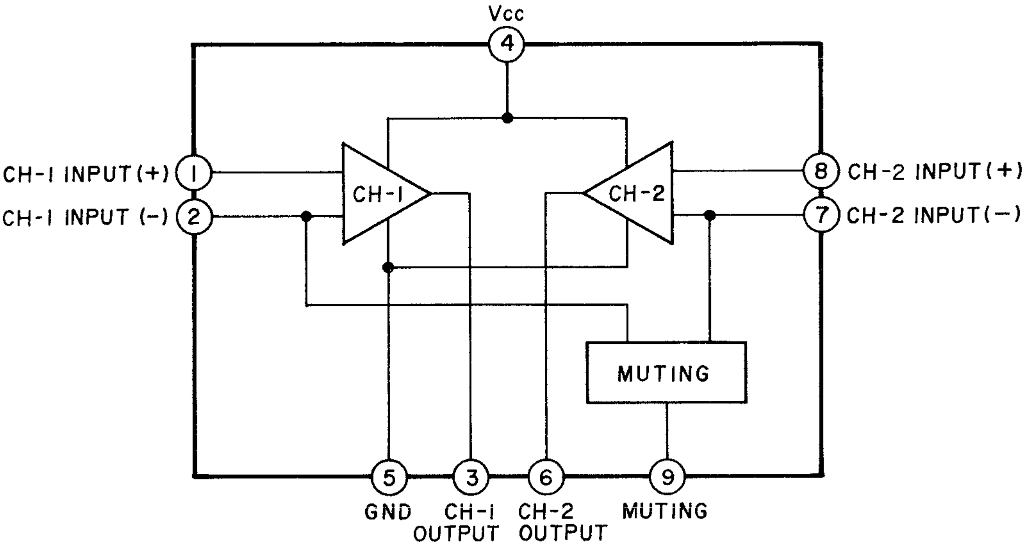


14 Vcc
17 V Ref
16 AFC
13 AM/FM OUTPUT
15 SIGNAL METER DRIVE
11 GND
10 AM DETECT
2 AM Vcc MUTE ADJ
6 AGC
18 LOCAL OSC
5 AGC
12 FM PHESE SHIFT
9 BYPASS
8 BYPASS
1 FM-IF IN
7 AM-IF IN
4 AM-MIX OUT
3 AM-RF IN
MUTE DETECT
AF AMP
AM DET.
AGC
MUTE or SHCICK NOISE REDUCE CIRCUIT
FM QUAD. DET.
AM L. OSC
FM-IF AMP
LEVEL METER
AM MIXER
AM/FM COMMON IF AMP
AM-RF AMP

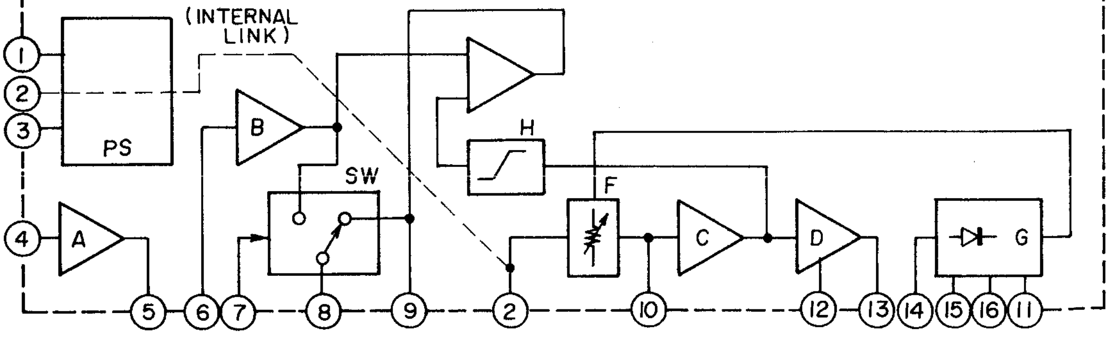
NJM4558D


Vcc
B OUT
B −IN
B +IN
8
7
6
5
1
2
3
4
OUT A
−IN A
+IN A
VEE

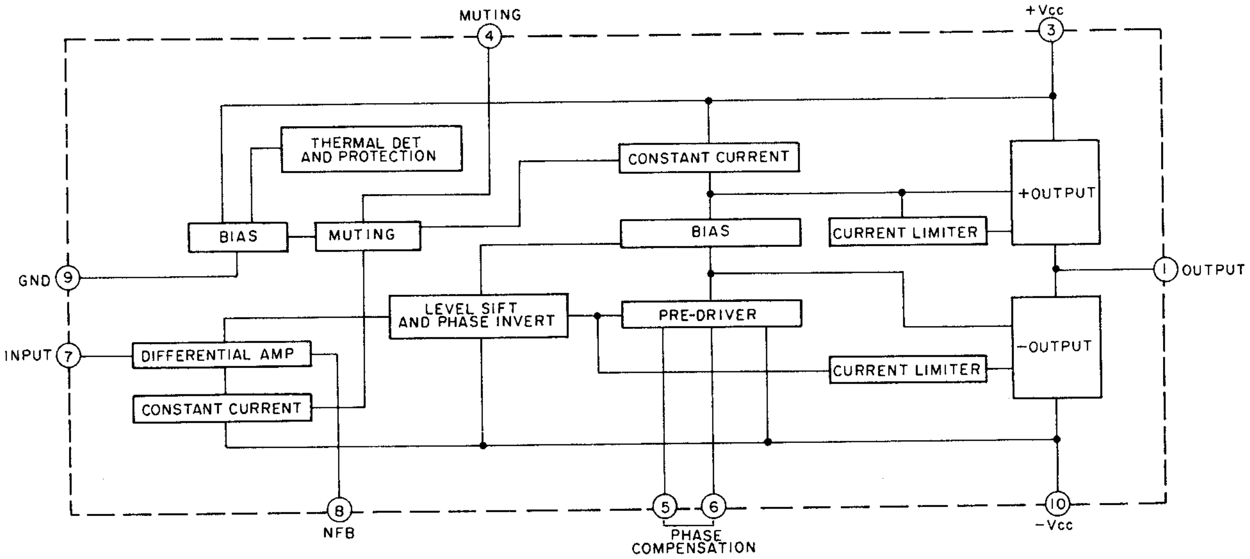
TA7325P


Vcc
4
CH-1 INPUT(+)
1
CH-1 INPUT (−)
2
CH-1
CH-2
8
CH-2 INPUT(+)
7
CH-2 INPUT(−)
MUTING
5
3
6
9
GND
CH-1 OUTPUT
CH-2 OUTPUT
MUTING

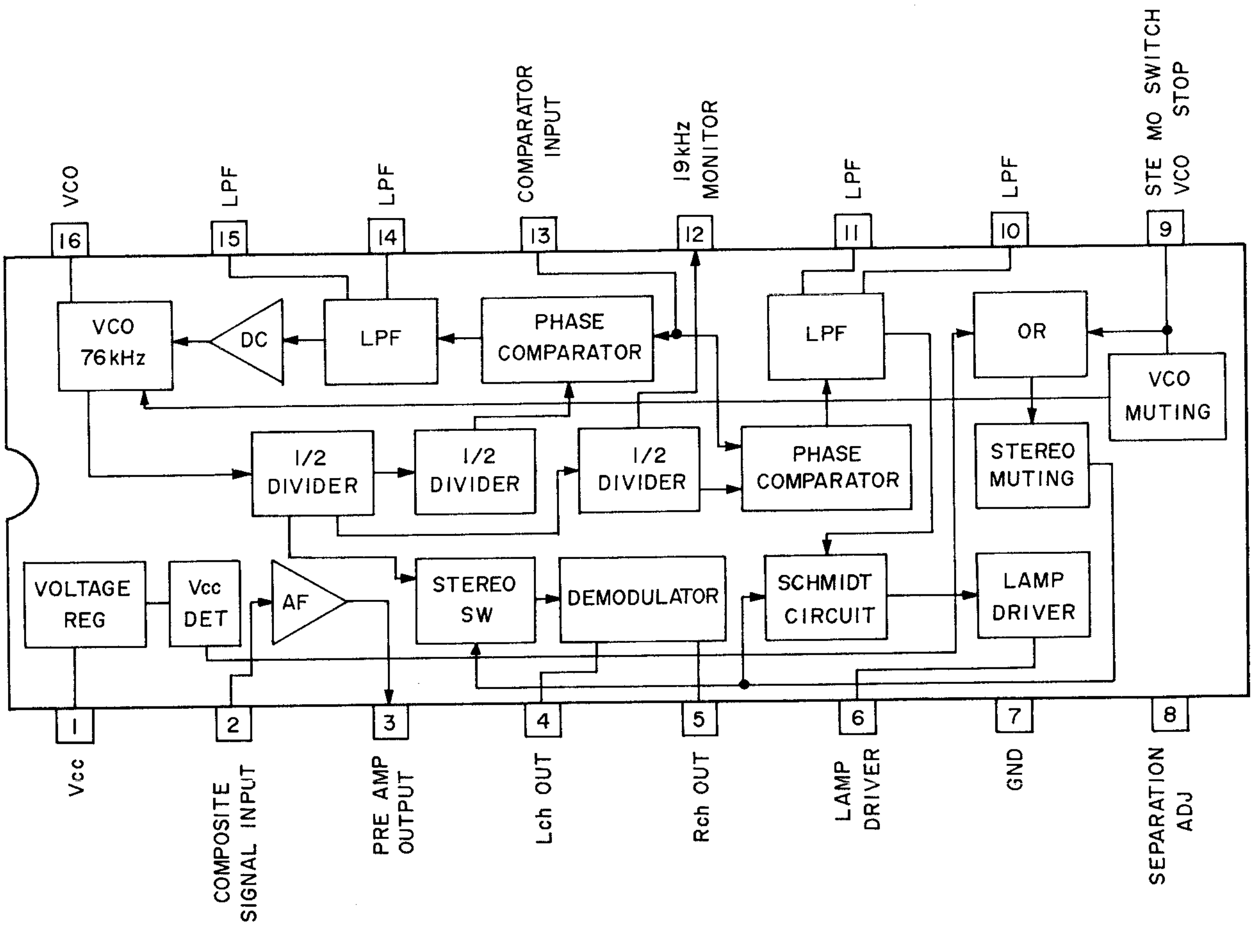
TA7629P

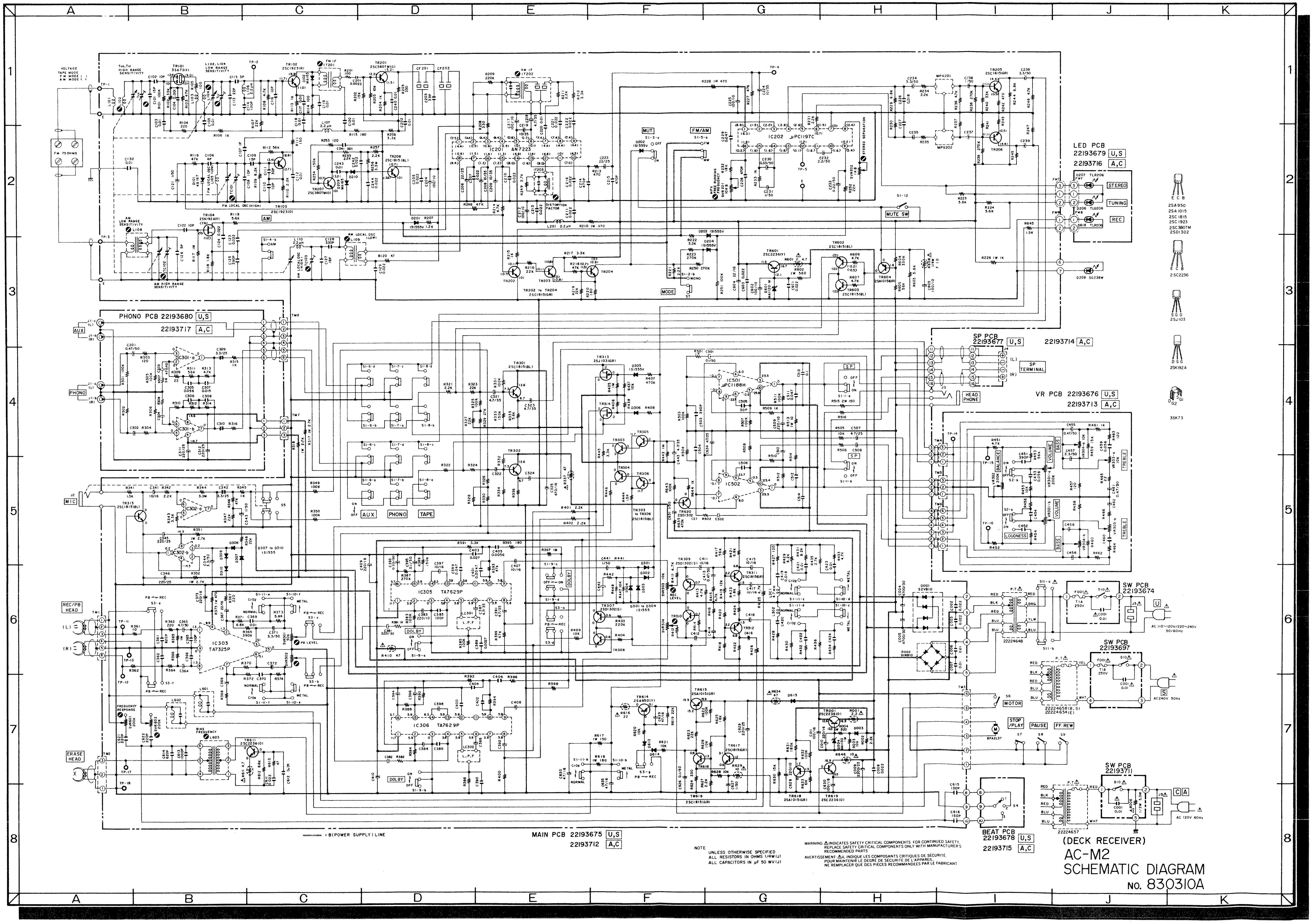

(INTERNAL LINK)
1
2
3
PS
B
SW
H
F
4
A
C
D
G
5
6
7
8
9
2
10
12
13
14
15
16
11

μPC1188H


MUTING
4
+Vcc
3
THERMAL DET AND PROTECTION
CONSTANT CURRENT
+OUTPUT
BIAS
MUTING
BIAS
CURRENT LIMITER
GND 9
1 OUTPUT
LEVEL SIFT AND PHASE INVERT
PRE-DRIVER
-OUTPUT
INPUT 7
DIFFERENTIAL AMP
CURRENT LIMITER
CONSTANT CURRENT
8
NFB
5
6
PHASE COMPENSATION
10
-Vcc

μPC1197C


VCO
16
LPF
15
LPF
14
COMPARATOR INPUT
13
19kHz MONITOR
12
LPF
11
LPF
10
STE MO SWITCH VCO STOP
9
VCO 76kHz
DC
LPF
PHASE COMPARATOR
LPF
OR
VCO MUTING
1/2 DIVIDER
1/2 DIVIDER
1/2 DIVIDER
PHASE COMPARATOR
STEREO MUTING
VOLTAGE REG
Vcc DET
AF
STEREO SW
DEMODULATOR
SCHMIDT CIRCUIT
LAMP DRIVER
1
Vcc
2
COMPOSITE SIGNAL INPUT
3
PRE AMP OUTPUT
4
Lch OUT
5
Rch OUT
6
LAMP DRIVER
7
GND
8
SEPARATION ADJ


A
B
C
D
E
F
G
H
I
J
K
1
2
3
4
5
6
7
8
PHONO PCB 22193680 U,S
22193717 A,C
AUX
PHONO
MIC
REC/PB HEAD
ERASE HEAD
TAPE
DOLBY
MUT
FM/AM
MODE
MUTE SW
STEREO
TUNING
REC
LED PCB 22193679 U,S
22193716 A,C
SP PCB 22193677 U,S
22193714 A,C
SP TERMINAL
HEAD PHONE
VR PCB 22193676 U,S
22193713 A,C
BALANCE
VOLUME
BASS
TREBLE
LOUDNESS
SW PCB 22193674
SW PCB 22193697
SW PCB 22193711
MOTOR
STOP /PLAY
PAUSE
FF REW
IC201 AN7223
IC202 μPC1197C
IC303 TA7325P
IC305 TA7629P
IC306 TA7629P
IC501 μPC1188H
IC502
2SA950
2SA1015
2SC1815
2SC1923
2SC380TM
2SD1302
2SC2236
2SJ103
2SK192A
3SK73
AC 110~120V/220~240V 50/60Hz
AC240V 50Hz
AC 120V 60Hz
= B(POWER SUPPLY) LINE
MAIN PCB 22193675 U,S
22193712 A,C
BEAT PCB
22193678 U,S
22193715 A,C

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/4W(J)
ALL CAPACITORS IN μF 50 WV(J)

WARNING: ⚠ INDICATES SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY.
REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S
RECOMMENDED PARTS

AVERTISSEMENT: ⚠ IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ.
POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL,
NE REMPLACER QUE DES PIÈCES RECOMMANDEES PAR LE FABRICANT

(DECK RECEIVER)

AC-M2
SCHEMATIC DIAGRAM

NO. 830310A